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APARTMENT HOUSE ARCHITECTURE

By RODERICK SEIDENBERG

DURING the last decade America has witnessed, if not a new style of architecture, at any rate a newly invigorated architecture. While other types of buildings exhibit a bolder, more resourceful and imaginative expression of their functions, the apartment house, by and large, has remained in the architectural doldrums of a decade ago. Yet the apartment house is no more conditioned by being utilitarian and of our time and place than our factories, lofts and office buildings, our banks, railroad stations and hotels. Here architecture has risen to its opportunities; in the apartment building it remains moribund. For the apartment house, despite the fact that it probably outnumbers every other type of urban building, is rarely conceived as a problem in design. Aside from the baleful decoration of its walls, once these are established, it receives little or no architectural study. There is no questioning of form or study of relative values, no searching for mass, for proportion, for expression—in short, there is no period of architectural gestation. The apartment house, so to speak, is born full-scaled on the drafting board. Thus, it remains always the same graceless, unredeemed, box-like structure—the *bête noir* of architecture.

There is, of course, a vast range in scale and luxury between the fashionable apartment and the dreary flat. The difference in the design of these two types represents the embellishments of wealth rather than any fundamental change in conception. The exclusive apartment is built of better materials, its finish, workmanship and equipment are vastly improved, its plan elaborated, while its facade reveals a semblance of architectural technique. What was tawdry and awkward in the cheap flat has become arid and self-conscious in the acceptable apartment, yet for all their differences they remain alike tenements in a far deeper sense than mere legal terminology. These sheer rectangular enclosures, with endless windows, these vast "stylish" buildings, ranging up and down our widest avenues, are staid but not distinguished, huge but not impressive. The architecture of our apartment houses, despite their number and the wealth they represent, is bankrupt and diseased.

The reasons for this failure are complex and deep-rooted. Historically, the apartment house slowly supplanted the individual dwelling under stress of economic pressure, due to an ever-increasing population and rising land values. Such advantages as it indubitably possesses, were, from the beginning, of an economic nature. Primarily, the apartment house is a congestion problem; it follows the same principle of compactness in its units as the city does in its buildings:—in other words, it is designed to achieve a maximum room density. This principle affects every element of an apartment house, and dominates every minutest decision of plan, construction and general conception.

The logic of the situation demanded ever bigger buildings and smaller rooms; a trend that had as its limit a wholly absurd condition, from which the law alone preserved us. Even now, though the pendulum has swung far in the other direction, no room of an apartment house bears any relation in scale to the building as a whole. The entrance lobby, tortuously seeking its way among unrelated columns, has of necessity a lower ceiling than the boiler room in the cellar or the tank house on the roof. It is worth noting that never before in the history of architecture has there been a type of structure burdened by so grotesque a discrepancy in scale between its mass and the elements composing it. Perhaps no single consideration affects more pro-

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foundly the architecture of a building than the basic correlation in scale between its interior elements and its exterior masses. The very possibility of creating and expressing an organic entity lies largely in this relationship. Neither the steamship nor the hotel, where compactness is as essential as in the apartment house, are reduced to the oppressive meagreness characteristic of every part of the latter. The same distinction applies to loft and office buildings, designed in motifs of large typical floor areas and simple, closely grouped horizontal and vertical systems of circulation. In all these cases larger elements give coherence to carefully grouped minor elements, thereby creating a sense of function and significance. But the apartment house, irrespective of its size, remains always a conglomeration of small elements, while its architecture of necessity is reduced to a blank and empty treatment of the "front."

The decisive principle in the designing of an apartment house is the domination of the plan to the exclusion of all other factors. Once the plan—identical in every detail for nine, twelve or fifteen stories as the case may be—is finished and figured, the building is completely determined excepting for the minor business of spacing the windows, and the addition of such paper architecture as may now be applied on the front in an effort to secure an acceptable facade. The reason for this stringent procedure is as obvious as it is adamant: it is the plan which rents the apartment. The facade is of necessity a postscript, an architectural afterthought, a veneer. It is extraneous not only because it is divorced from the plan, but because the plan itself is at best unyielding and lacking in design.

The plan needs indeed to be disguised rather than expressed. For it will be granted that the clear and naked expression of a plan, insisted upon by what might be called the pragmatic school of architecture, can be satisfying only in the degree in which the plan gives evidence of structure and design. The aesthetic value of undisguised construction is contingent upon a sense of design in the construction itself, without which it is simply cumbersome and meaningless. The plan of an apartment house is a bewildering, sorry-looking affair, the result of a dire scramble for light and air and floor space, the translation of which into the language of the facade

Photo by Ewing Galloway

PRIMITIVE APARTMENT HOUSES

IN CAVES IN THE CLIFFS OF THE FRIJOLES CANYON NEAR SANTA FE, MEXICO, A PREHISTORIC RACE FOUND PROTECTION FROM THE ELEMENTS AND THEIR NATURAL ENEMIES

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would hardly be edifying. In proof of this, witness the rear elevations of apartment houses—nothing could well be more honest or ugly. Yet the principles underlying the plan are the same, whether the front or rear be considered. The difference between the elevations is entirely an artificial one. For the rooms, whether they be on the street or court, are always designed under the same compelling principle—each room must have its place in the sun at the expense of its proportions, its wall surfaces, and its functional position. This crowding results in a preponderance of elongated rooms, with the narrow end toward the light—an arrangement fatal to any interior charm and fraught with obvious difficulties for the exterior.

The treatment of the facade is complicated by still other features. The law demands that windows be at least equal to ten per cent of the area of the rooms to which they afford light. At first sight this seems a sufficiently innocent matter, yet experience soon shows how devastating this requirement can be. For, now, the largest window will of necessity determine the size of the typical window, since in its own case it merely fulfills a minimum requirement. In addition the more important rooms will surely have two windows—in fact, the trend favors two windows for all rooms—so that the unduly large windows will have to be repeated until little wall space is left on the exterior and, allowing for steel columns, pipes and partitions, even less on the interior. Finally the spacing of the windows will be still further constricted by their location in the major rooms. Under these circumstances the sacrifices will naturally be heavy in order to achieve some cogency in the exterior arrangement. When, after much effort, a tolerable fenestration emerges with some merit on both sides of the fence, the facade is ready to be decorated with such architectural remnants as the designer's fancy commands or the neighborhood warrants. The building having been completed, it is time to decide upon its style of architecture!

Style is at best a thorny matter, whether it obtrudes itself at the end or the beginning, largely because, to put it in a simple and naïve manner, the question is raised at all. Far from opening up the gates to wider possibilities, the problem of style, all too consciously conceived, reduces itself to a matter.

Photo by Ewing Galloway

PRIMITIVE APARTMENT HOUSES

THE COURTYARD OF A TROGLODYTE VILLAGE IN SOUTHERN TUNISIA, WHERE THE ADOBE HOUSES IN MUD DAUBER STYLE RESEMBLE THE NESTS OF MUD WASPS

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of choice rather than to a creative opportunity. Style cannot be discussed in relation to specific buildings; it pertains to architecture as a whole and calls for the widest possible comprehension. Doubtless the present is a transitional period in architecture, not alone for us in America, but everywhere. For the influences on design of industrialism under a highly mechanized civilization are more far reaching than the revolution in the technique of building materials and building processes alone would imply. Above all, these influences are psychological. Their final effect upon architecture will be profound, calling for a wholly new idiom, suitable to and expressive of modern needs and a modern idealogy. The adaptation of a style is in itself a confession of atavism, for, in its legitimate period, style is not adopted, but created. The birth of a style is an indication of vitality—of a dynamic sense of design. It is the translation of lucidly conceived function into equally lucid forms—forms which are the symbol rather than the direct and unadorned expression of function. The long hood of an automobile is a symbol of power and speed—it is an idiom of automobile architecture. In the deeper sense, there is a woeful absence of design—of architecture—in the apartment house. Devoid of interior roots, apartment house architecture is shallow and extraverted. For the plan cannot be measured in terms of design, and the only unity which the apartment house may boast lies in its false and superimposed facade. Style becomes here simply a question of fashion, instead of the flowering of a principle of construction or the expression of our mode of life.

It is interesting to observe in relation to the question of style that apartment houses favor a horizontal rather than a vertical treatment in their facades. This borders on the paradoxical, considering the fact that the rooms have only a vertical relation—in a lateral sense they are entirely alien and disconnected. The reasons for this rather illogical approach are worth examining. At present

Photo by Ewing Galloway

PRIMITIVE APARTMENT HOUSES

THE FAMOUS CAVE DWELLINGS OF DAMBOOLLAGALLA ROCK NEAR KANDY, CEYLON, FROM WHICH THE MODERN APARTMENT HOUSE EVOLVED

apartment houses are no higher than fifteen stories. This one condition alone has resulted in relatively low masses. The apartment house is slender in the sense in which we have become accustomed to verticality in our office buildings, hotels and lofts. To some extent the horizontal mass has doubtless favored a horizontal treatment, though this consideration alone is hardly responsible for so decided a trend. Perhaps the most potent factor lies in the domestic nature of the building. In an effort to retain some vestiges of its origin, the apartment house is naturally reminiscent of an architecture derived from low buildings such as dwellings have always been. In addition, the individual apartment, concentrated on one floor, in distinction to the three or four floors of the private house, suggests a horizontal rather than a vertical continuity. Finally, the hard line of the coping, kept as low as possible because of the valuable pent house apartments, depresses all beneath it; while the demand for a stone base, often enough an absurd real-estate gesture, intended for what, in Mr. Veblen's phrase, would count as "conspicuous waste" near the eye level where it can be appreciated, accentuates, like the coping, a horizontal tendency. But even more decisive perhaps than these considerations are the sacrifices which a vertical treatment entails, especially in the matter of reveals. In order to achieve a vertical scheme, four to twelve inches constitutes a modest depth in which to develop an inter-play of surfaces; yet in a building whose function it is to convert inches into dollars, this is prohibitive. The one definitive characteristic of the structure—its vertical repetition, is denied any explicit acknowledgment in the facade, for this feature is more pleasing to the landlord than to the tenants. Anatole France observes in "Monsieur Bergeret in Paris": "To my mind, the precision of modern houses reveals the daily function of the creatures enclosed in them as plainly as though the floors and ceilings were of glass. And all these people who dine one above another, play piano one above an-

Photo by Ewing Galloway

PRIMITIVE APARTMENT HOUSES

SKALA, A CLIFFSIDE TOWN IN GREECE, IS BUILT MUCH IN THE STYLE OF THE AMERICAN PUEBLOS, EXCEPTING THE SEMI-CIRCULAR ROOFS

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Photo by Ewing Galloway

PRIMITIVE APARTMENT HOUSES

RUINS OF THE CLIFF DWELLERS ON A HIGH LEDGE OF ROCK IN MESA VERDE, NATIONAL PARK, COLORADO

other, and go to bed one above another, in a perfectly symmetrical fashion—when one thinks of it, they offer a spectacle both comical and humiliating." Architects have consoled themselves by throwing a disingenuous veil over this humiliating spectacle!

Recent developments in apartment building have followed wholly divergent courses. On the one hand, an attempt has been made in the cooperative apartment to attain in apartment life something of the integral, personal nature of home in its true conception of a place tenanted by the owner. On the other hand, along somewhat similar lines but catering to a slightly different field, there has arisen an increasing number of apartment hotels, studio apartments and the like, offering the service and the convenience of a hotel, combined with the permanence and relative privacy of the apartment.

From its financial conception, the cooperatively owned apartment belongs to a different category than the usual speculative enterprise—a fact which must inevitably affect its architecture. Since its planning is subject to specific, personal requirements, it is certain to exhibit a greater regard both for the function of individual rooms and for their general arrangement than is possible in the speculative type, designed perforce for some hypothetically typical family. Its rooms will regain in some measure the intangible qualities of distinction, privacy and freedom of planning which, more than all else, distinguish the home from a mere place of residence. The duplex scheme, possible but inexpedient in the common run of pre-planned apartments, can be used to great advantage in the cooperatively owned apartment, and affords unusual latitude both in the arrangement and proportions of the rooms.

The differences in character and conception between the cooperative and the conventional type of apartment house are more evident in their interior arrangements than in their exterior appearances. The higher the building, the more general will be this external resemblance. The severe problems of fenestration due to the variety of floor plans; the perplexing and costly conditions of the complex steel work; the delicate question of diverse tastes; and, not least, the tenement character of this type under the present law, all tend to chasten the facade into a rather characterless compromise. Finally, neither architects nor owners have thus far been sufficiently bold in realizing and emphasizing the essentially different function of the cooperative apartment. Not until there is a complete emancipation from the accepted sense of apartment house architecture, will the cooperative apartment emerge into a legitimate and expressive form. Some such development is doubtless imminent. The cooperative apartment house offers an interesting opportunity to those wealthy enough to avail themselves

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of it—who might well afford the luxury of significant design—a luxury to which they are sensitive in their cars, their yachts and their apparel. Obviously, however, the cooperative apartment has not yet attained its architectural maturity. Perhaps "distinguished" architects find themselves hampered by their lack of familiarity with the tenement house code, while apartment house architects are even more hampered by their apparent unfamiliarity with architecture.

In contrast to this solution the apartment house is undergoing a far more radical change in which no vestige of the home as such remains—a development intended to serve the mobile section of the population. At its highest pitch, city life is no longer the life of the family, but one of shifting crowds, of restaurants and theatres, offices and subways—an existence in which the individual is lost in the mass. Of necessity, its architecture will represent a kind of common denominator of its mass requirements; it will be semi-public; hard, intricate and vast; an architecture of speed, precision and movement. It will afford privacy without individuality; it will be social without being intimate. Above all, it will consist of huge aggregations of small identical units, grouped with a keen sense of organization, and integrated by a few important elements of general function. In all these qualities it will reflect the essential structure of cosmopolitan life. A tentative approach to this form of edifice is apparent in the modern studio apartments and apartment hotels, women's clubs, Y. M. C. A. buildings, and the like, all of which provide, like the hotel itself, a larger measure of service and convenience and require less responsibility than even the smallest unit apartment. They afford that element of elasticity which alone makes congestion humanly possible. These buildings belong naturally to the heart of the city, yet as congestion increases they will doubtless spread until the apartment house in its present form may become wholly obsolete. Designed to supplant the private dwelling, it is destined to be supplanted in turn. For the apartment house is essentially a transitional compromise between the home and some imminent modification of the hotel.

The architecture of the apartment house is to be understood only by bearing in mind the compromise character of its function. Its architecture is weak and anomolous, precisely because its function

Photo by Ewing Galloway

PRIMITIVE APARTMENT HOUSES

THE MASSES IN THE VILLAGES IN THE GARADAGH MOUNTAINS IN PERSIA LIVE IN HOVELS

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is abortive. Structurally an accretion of many homes, the apartment house connotes, in fact, the architectural degeneration of the home. For the apartment house is a pretense, the convenience of which is due to financial exigencies rather than to inherent merit. Privacy, individuality, above all the opportunity to expand with the development and growth of the family, are all alike denied by its seried scheme of iron bound compartments. Change can only be accomplished by the simple but fatal expedient of moving from one premise to another. Thus, the apartment is tacitly a place of temporary residence. Consequently, it is designed to meet some fictitious average of taste and general requirements, which, judged by the abstract version of a renting plan, gives it a livable appearance. In reality, it is arid and arbitrary. Everything conspires to increase the yearly migrations from one apartment to another—to accentuate the impermanent nature of occupancy. Even the household effects in an apartment differ from those in a private residence. The living room of an apartment has space for the evanescent magazine rather than for treasured books, while the pathetic panelling of its walls make the prints of Rembrandt superfluous.

This meagreness in fundamental values has induced builders to "improve" their offerings with all manner of mechanical contrivances. Under this system of bolstering up the questionable advantages of apartment house living, the bath and the kitchen have perhaps profited most. Bath rooms have not only been improved, they have been increased in number until, following the example set by the hotel, no bedroom is without one. The description of a modern apartment,—with its emphasis upon light and air, baths and sanitary mouldings, incinerators, noiseless elevators and electric refrigeration, its fireproof construction and efficient heating—sounds more like the specification for a hospital than a home. However valuable in themselves, these mechanical improvements merely emphasize the fact that the apartment house has little else to offer.

Despite the most exacting care in the arrangement of its parts, the apartment house never attains that felicitous simplicity essential to an architectural conception. It never suggests a sense of inner relations composed and mastered—a feeling of satisfaction in the presence of a highly intricate construction, resolved by human will and thought a clearly functioning organism. It is never "planned" in the architectural sense of the word: it is painfully contrived, and that under a set of rigorous requirements and minutely explicit regulations unknown in any other type of structure. The hectic jumble of bedrooms, bath rooms, and closets, living rooms and dining rooms, kitchens and pantries, corridors, stairs and foyers, passages and elevators, courts and yards, is still further complicated by a mesh of rules, by-laws, exceptions, regulations and provisions of the most formidable intricacy, having often enough no reasonable relation to the structure on hand. Such pandemonium is never resolved into "frozen music"; it remains a torturous cacophony. Certainly nowhere else are there to be found those irksome vagaries of planning which we have come to accept as inevitable in the apartment house; nowhere else do we tolerate the unrelieved angularity, the lack of charm, of freshness and design, the empty, meretricious decoration, the cramped banality which passes for architecture—nowhere do we abide these things but in the apartment houses where we live.

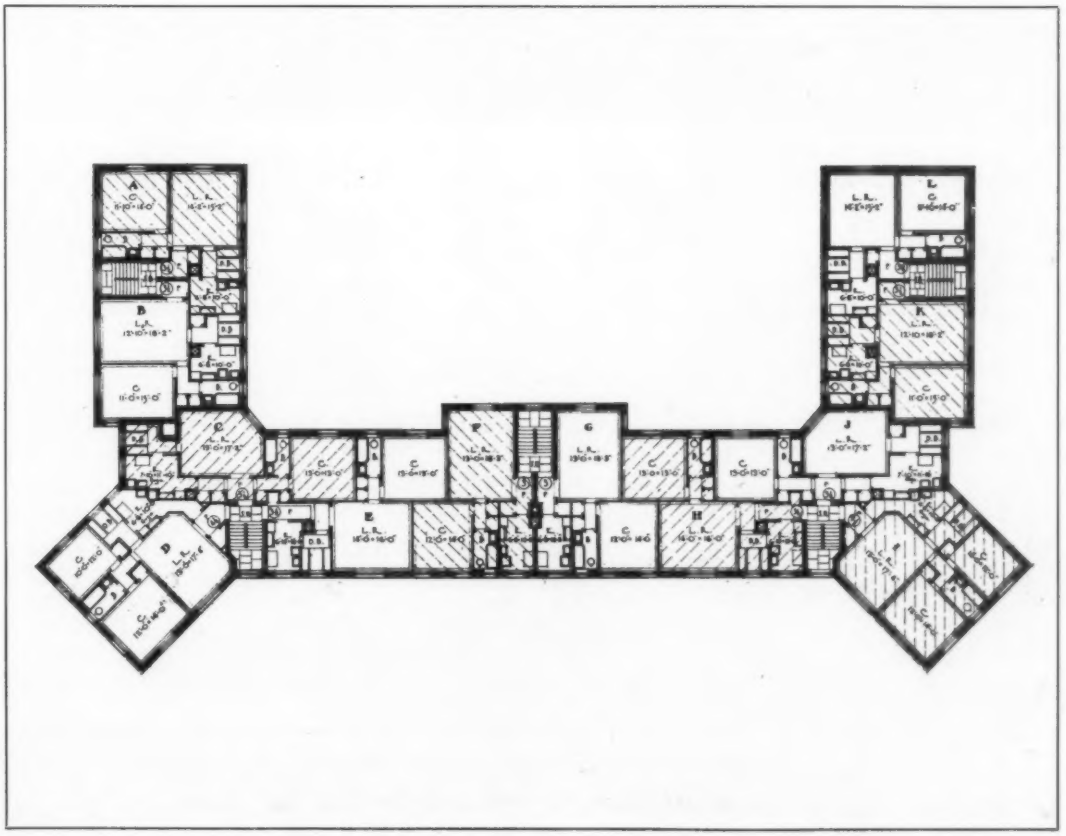
If the trend of the argument has seemed to show that these conditions are inherent, to that extent it has exonerated the architect. Yet stringent conditions, in defining the function of a building, lead to vigorous and significant architecture. The fact remains that many apartment houses have been fashioned in offices of otherwise unassailable reputation, without, however, attaining conspicuous merit. By and large the apartment house is architecturally a well-nigh hopeless problem; seriously to attempt its solution is to court defeat. Such defeat, unfortunately, is sufficiently congenial to some, however discouraging to others. It might be said that the severest of architectural problems has fallen by its own weight into the hands of those least capable of solving it. That is to say, solving it professionally, for the designing of apartment houses has in reality come to be largely a mercantile enterprise, in which the lowest fee constitutes the highest recommendation.

Only a change in the attitude of the profession toward the apartment house as an architectural problem can result in the development of new forms, new legal suggestions, and a fairer and more hopeful outlook. Every genuine contribution to the architecture of the apartment house will become incorporated in the type. But such contributions must come from those who alone are qualified to make them—that is, the architects.

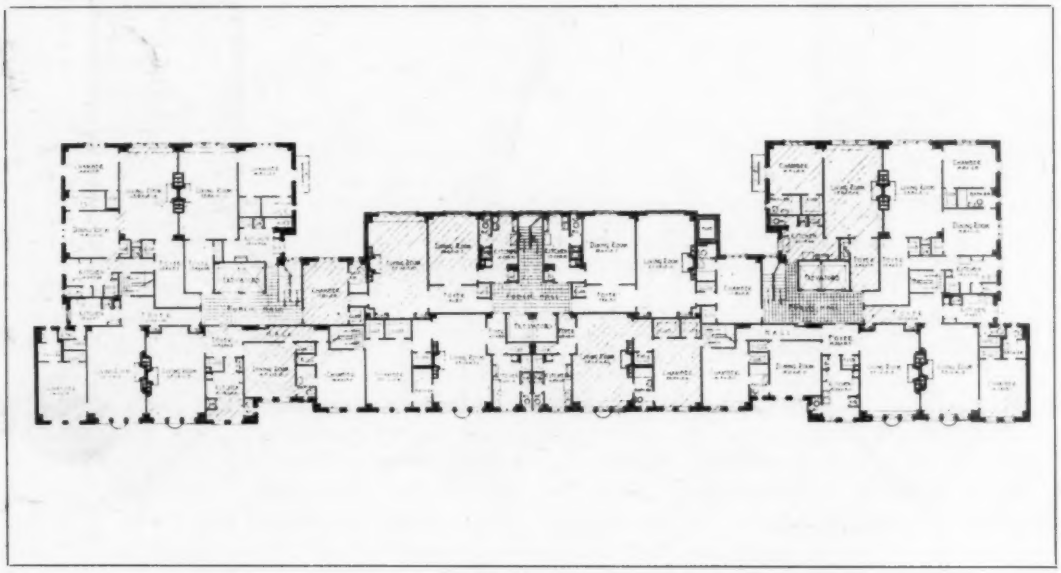
CONTINENTAL APARTMENTS, FOREST HILLS, NEW YORK

THEODORE ENGELHARDT, ARCHITECT

(From the drawing by Schell Lewis)



From the drawing by V. Hagopian



APARTMENT HOUSE, 38 TO 58 EAST TENTH STREET, NEW YORK

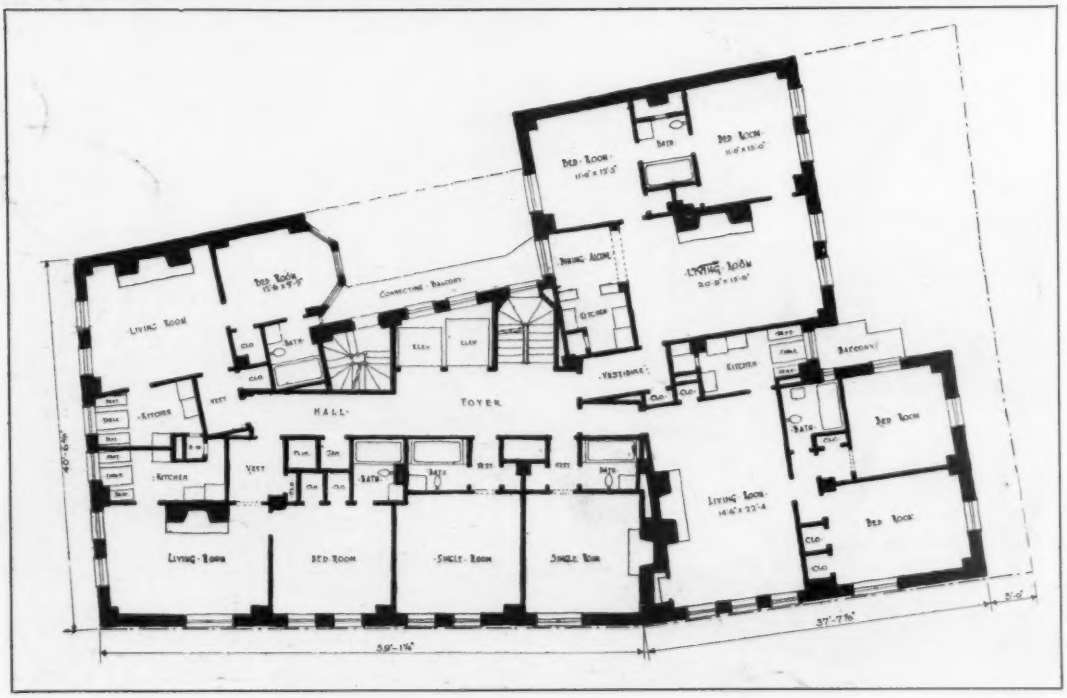
HELMLE, CORBETT & HARRISON, ARCHITECTS

Photo by Weber

ASHBURTON APARTMENTS, BOSTON, MASS.

STRICKLAND, BLODGET & LAW, ARCHITECTS

Photo by Weber



ASHBURTON APARTMENTS, BOSTON, MASS.

STRICKLAND, BLODGET & LAW, ARCHITECTS

APARTMENT HOUSE, HARPER AVENUE, CHICAGO, ILL.

HUSZAGH AND HILL, ARCHITECTS

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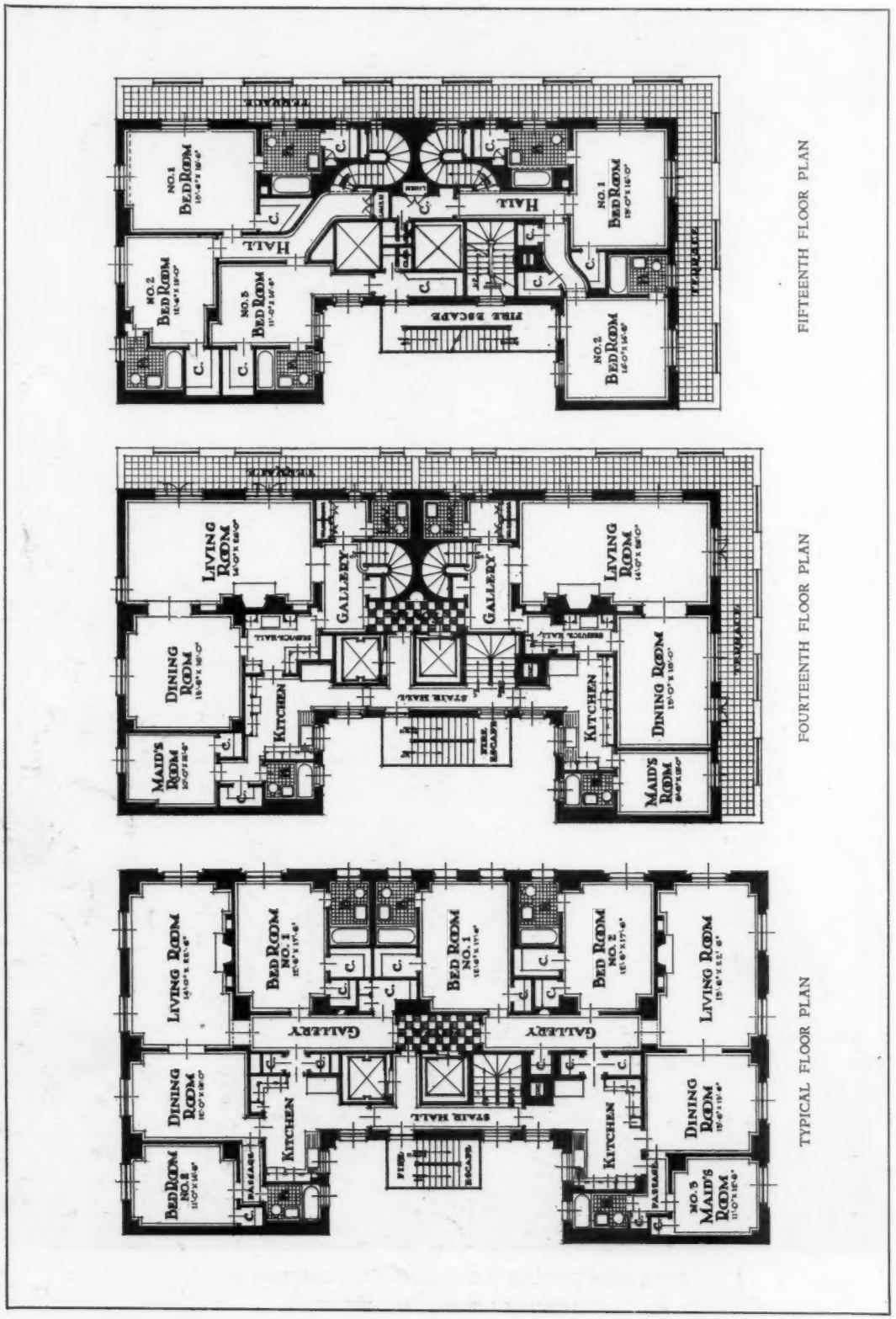
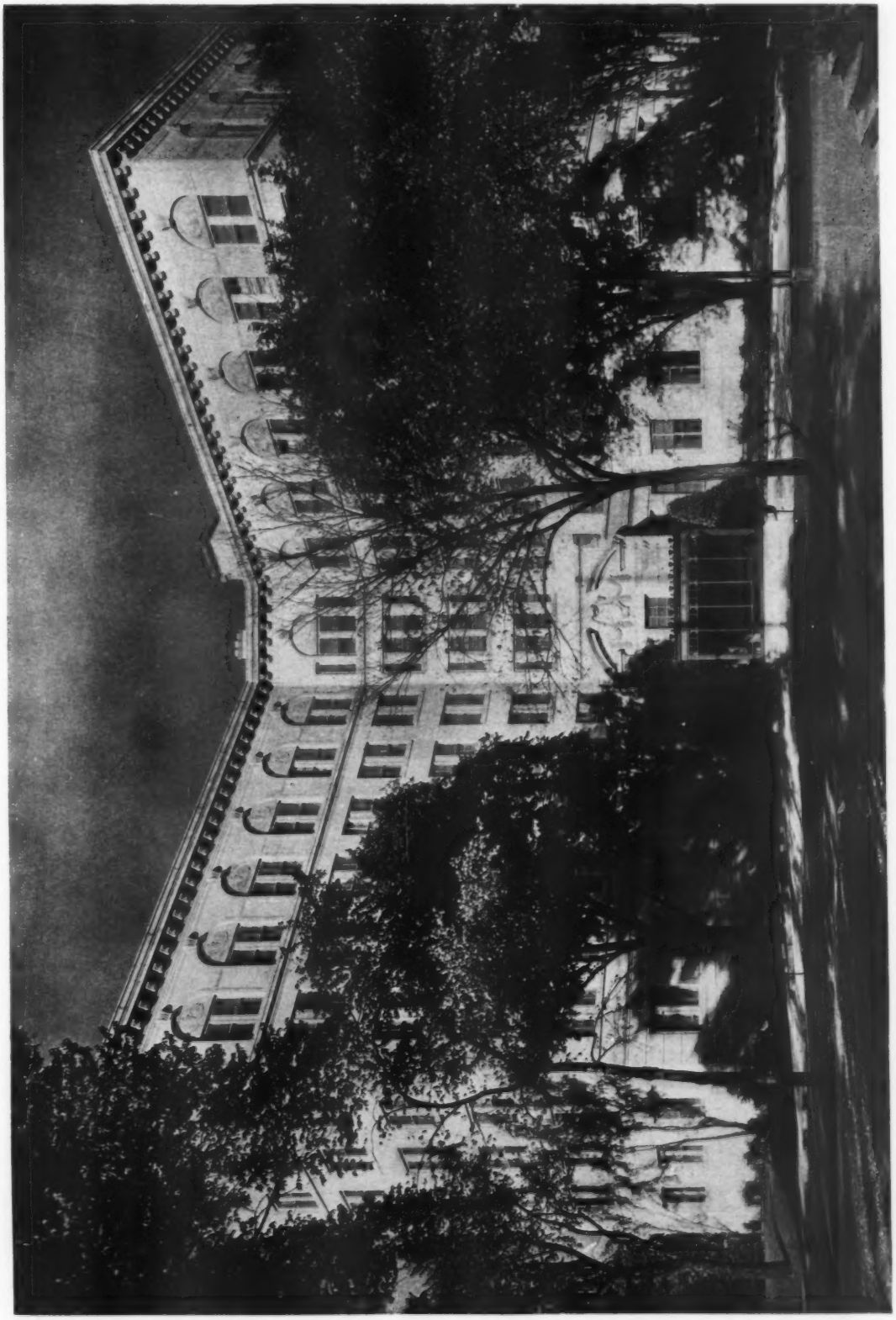


FIFTEENTH FLOOR PLAN

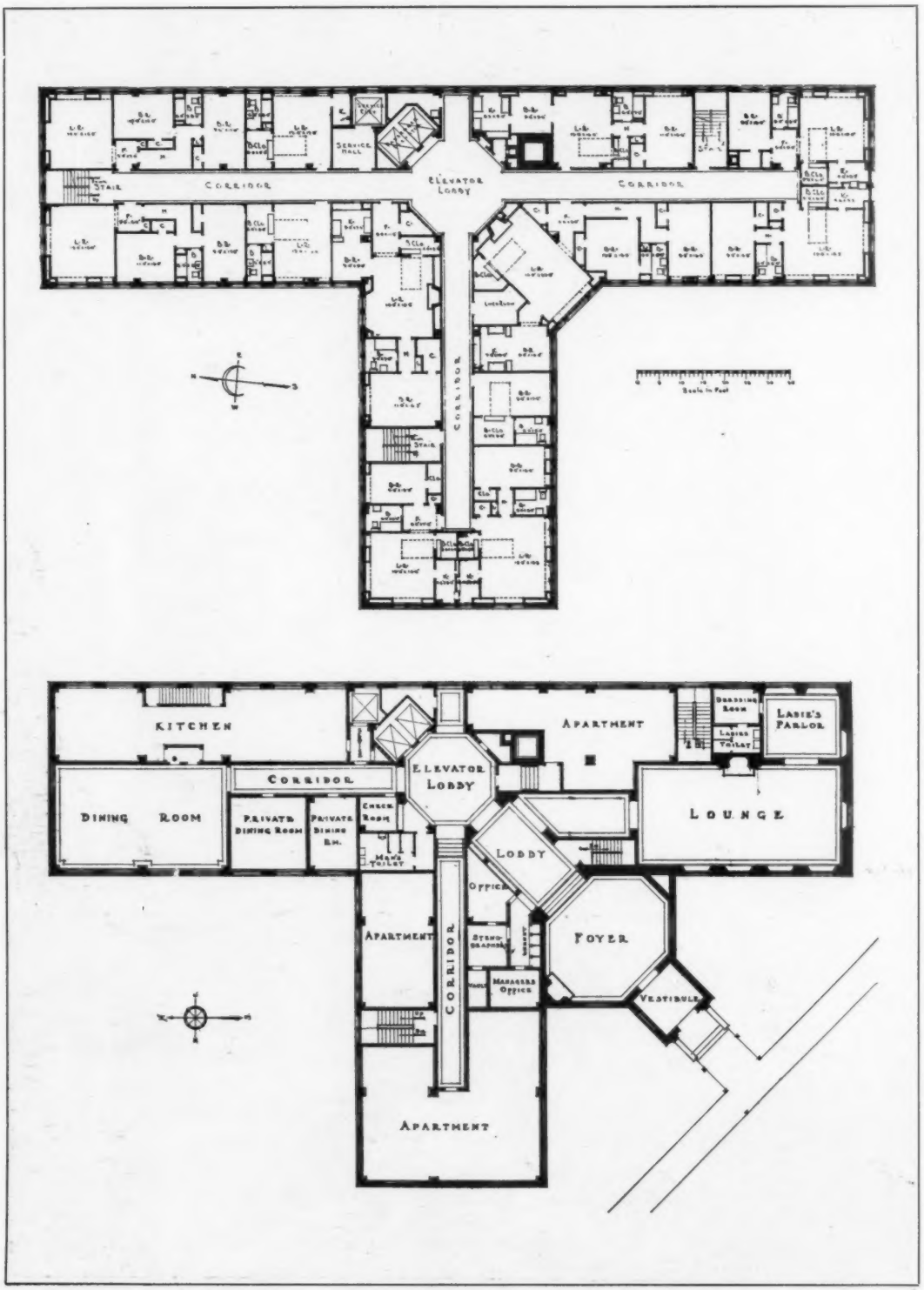
FOURTEENTH FLOOR PLAN

TYPICAL FLOOR PLAN

APARTMENT HOUSE, HARPER AVENUE, CHICAGO, ILL.—HUSZAGH AND HILL, ARCHITECTS



GROVELAND APARTMENT HOTEL, MINNEAPOLIS, MINN.—LARSON & McLAREN, ARCHITECTS



GROVELAND APARTMENT HOTEL, MINNEAPOLIS, MINN.

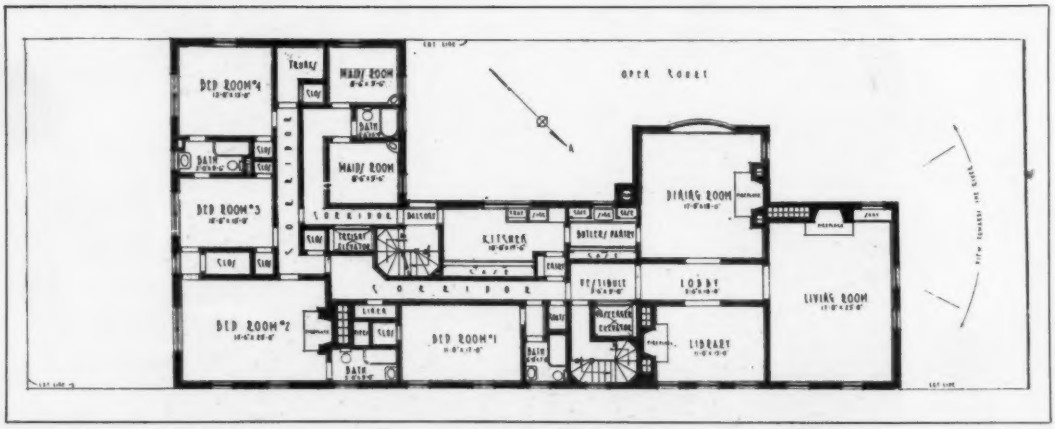
LARSON & McLAREN, ARCHITECTS

Photo by Weber

APARTMENT HOUSE, 282 BEACON STREET, BOSTON, MASS.

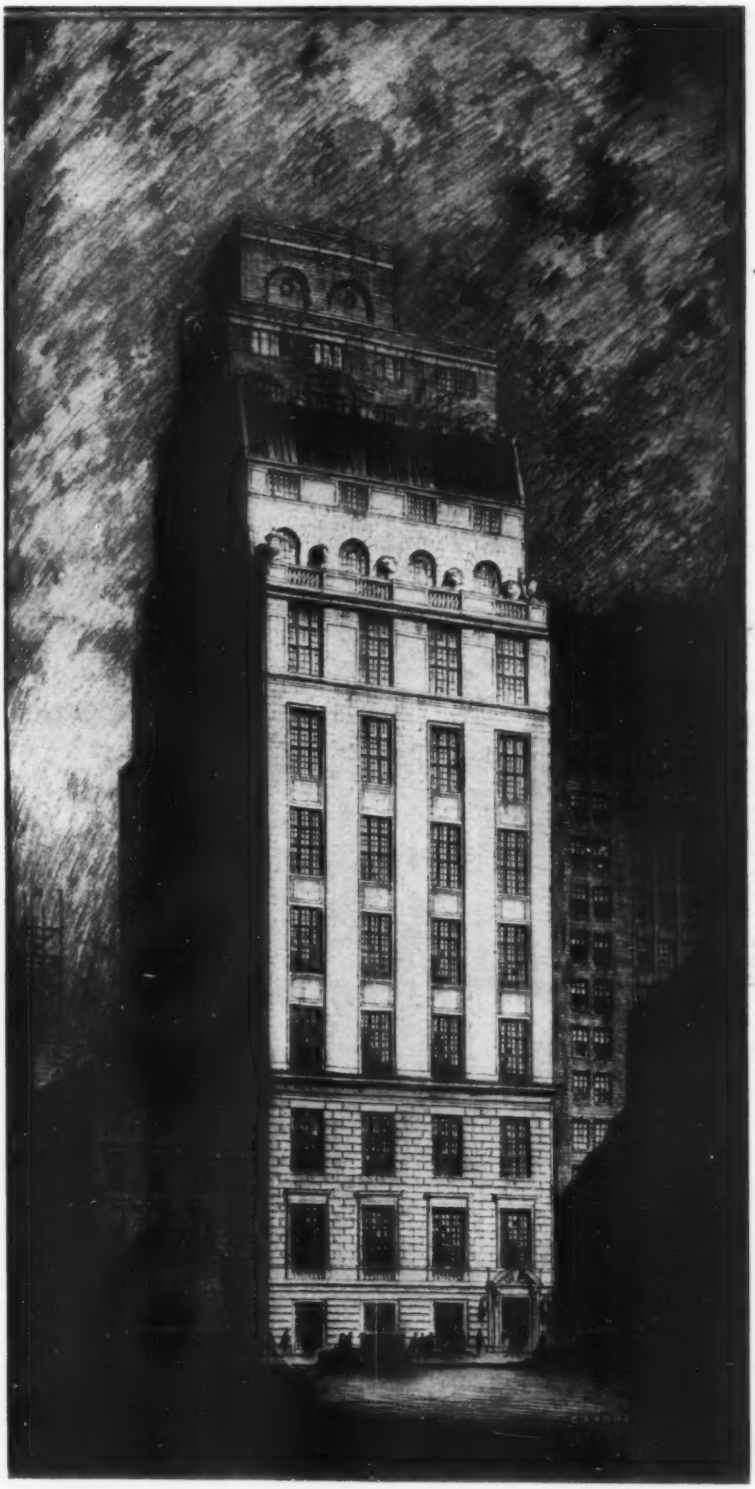
BLACKALL & ELWELL, ARCHITECTS

Photo by Weber



APARTMENT HOUSE, 282 BEACON STREET, BOSTON, MASS.

BLACKALL & ELWELL, ARCHITECTS



APARTMENT HOUSE, 322 EAST 57TH STREET, NEW YORK

HARRY M. CLAWSON AND CAUGHEY & EVANS, ARCHITECTS

(From the drawing by Chester M. Price)

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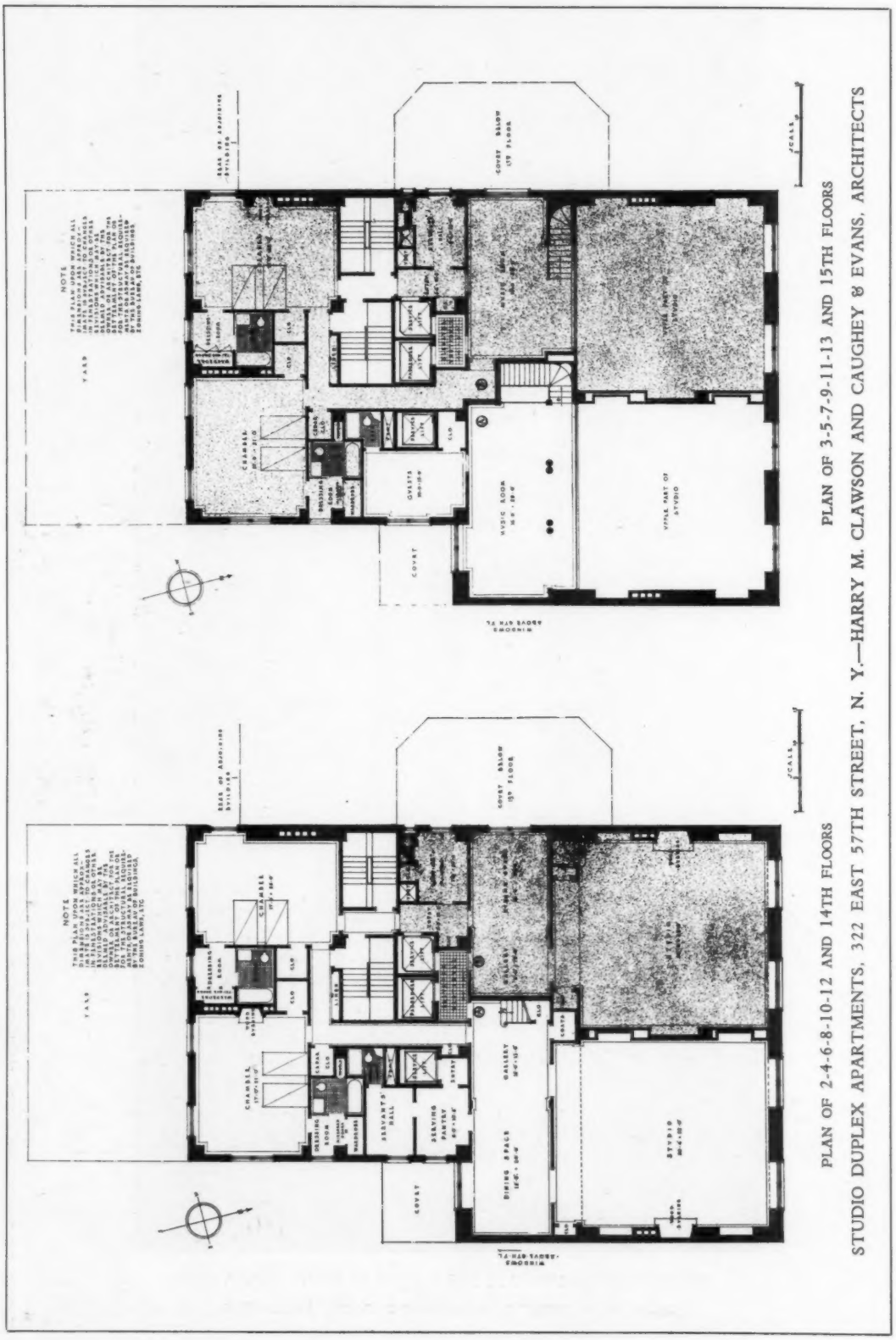


PLAN OF 3-5-7-9-11-13 AND 15TH FLOORS

PLAN OF 2-4-6-8-10-12 AND 14TH FLOORS

STUDIO DUPLEX APARTMENTS, 322 EAST 57TH STREET, N. Y.—HARRY M. CLAWSON AND CAUGHEY & EVANS, ARCHITECTS

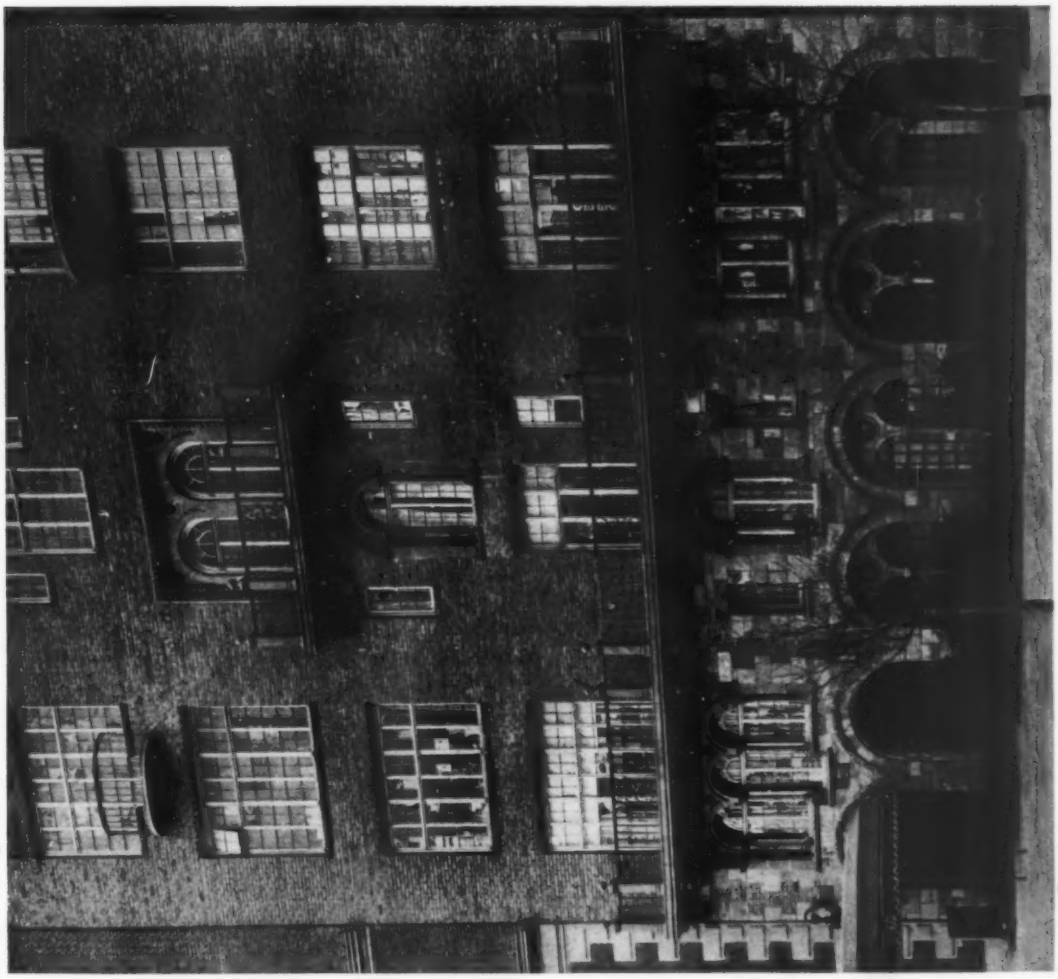
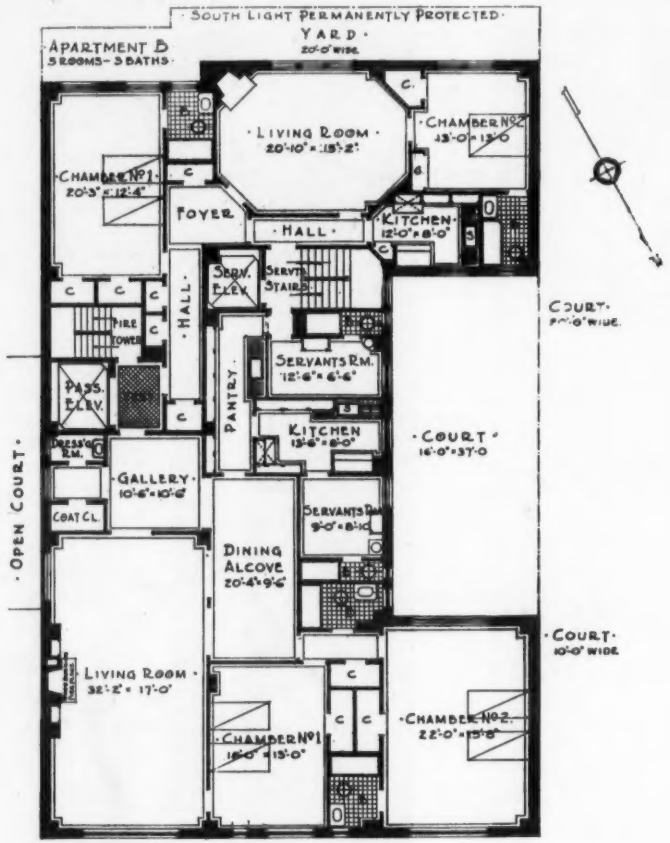


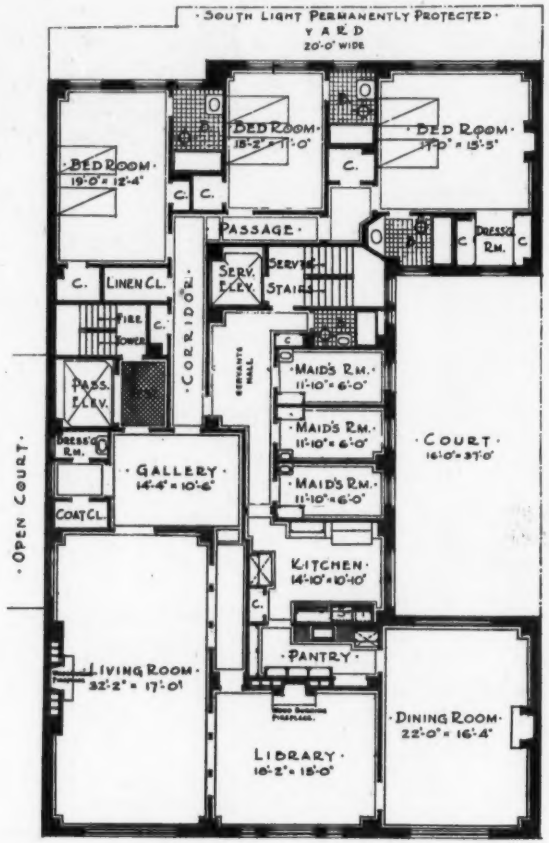
Photo by Gottscho

From the drawing by V. Hagopian

APARTMENT HOUSE, 160 EAST 72ND STREET, NEW YORK—TAYLOR & LEVI, ARCHITECTS; KENNETH M. MURCHISON, CONSULTING ARCHITECT



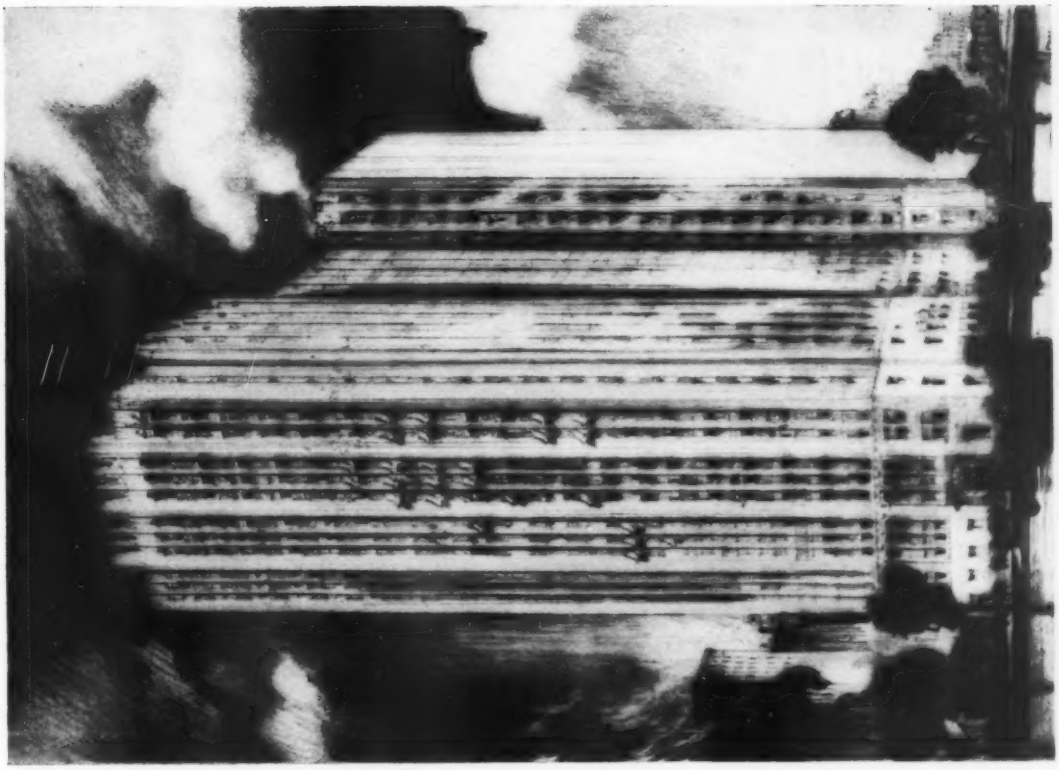
PLAN OF 3RD AND 4TH FLOORS

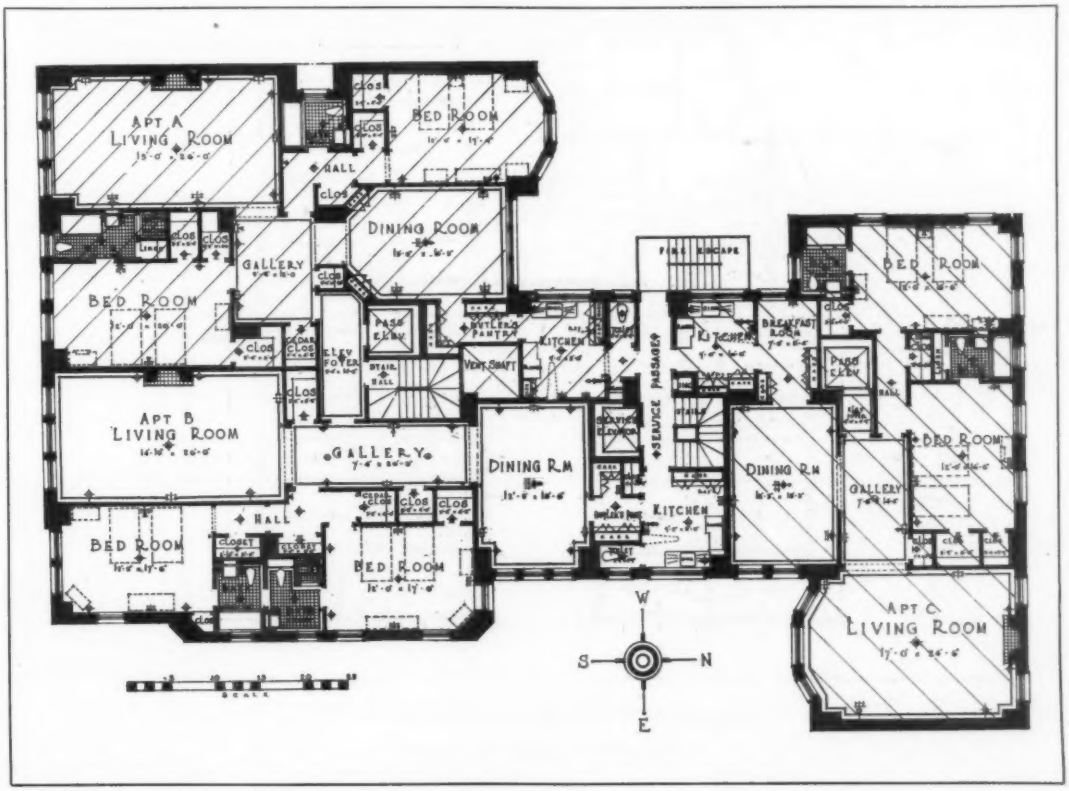


PLAN OF 5TH TO 10TH FLOORS

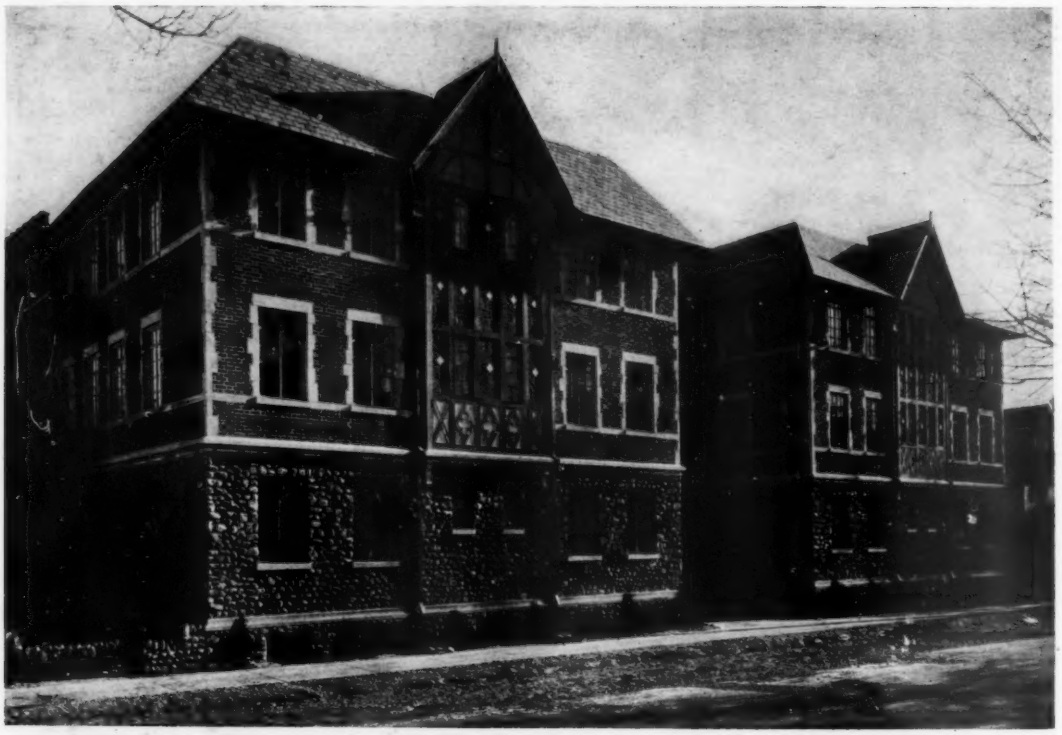
APARTMENT HOUSE, 160 EAST 72ND STREET, NEW YORK

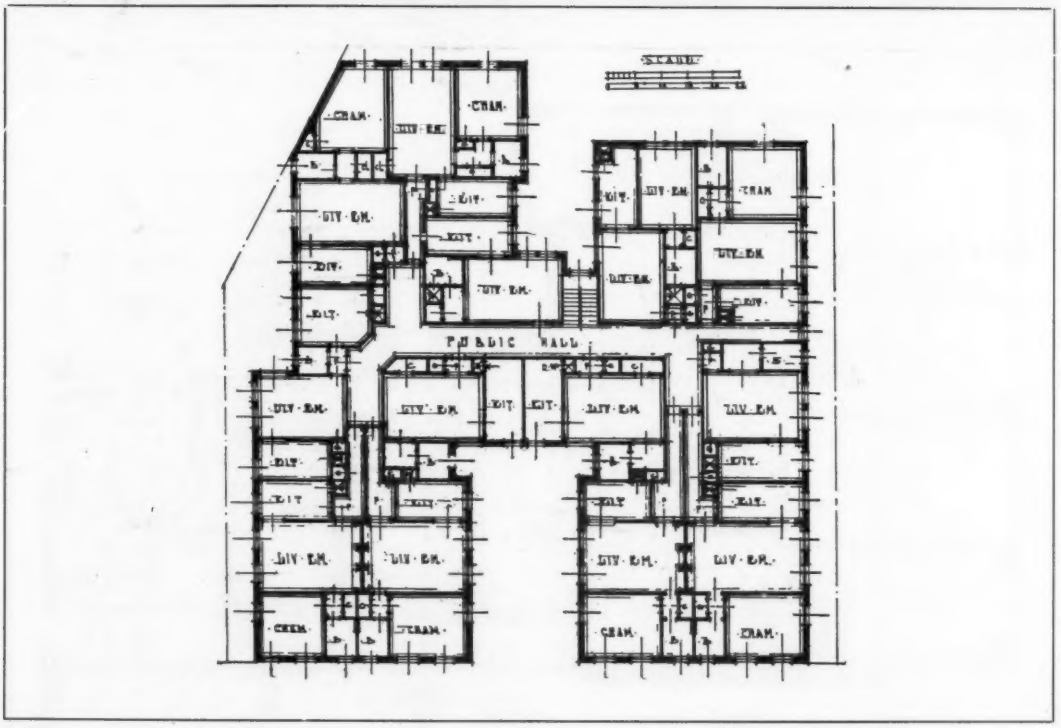
TAYLOR & LEVI, ARCHITECTS; KENNETH M. MURCHISON, CONSULTING ARCHITECT





NARRAGANSETT APARTMENTS, CHICAGO, ILL.—LEICHENKO & ESSER, ARCHITECTS





APARTMENT HOUSE, MONTCLAIR, N. J.

NATHAN HARRIS, ARCHITECT

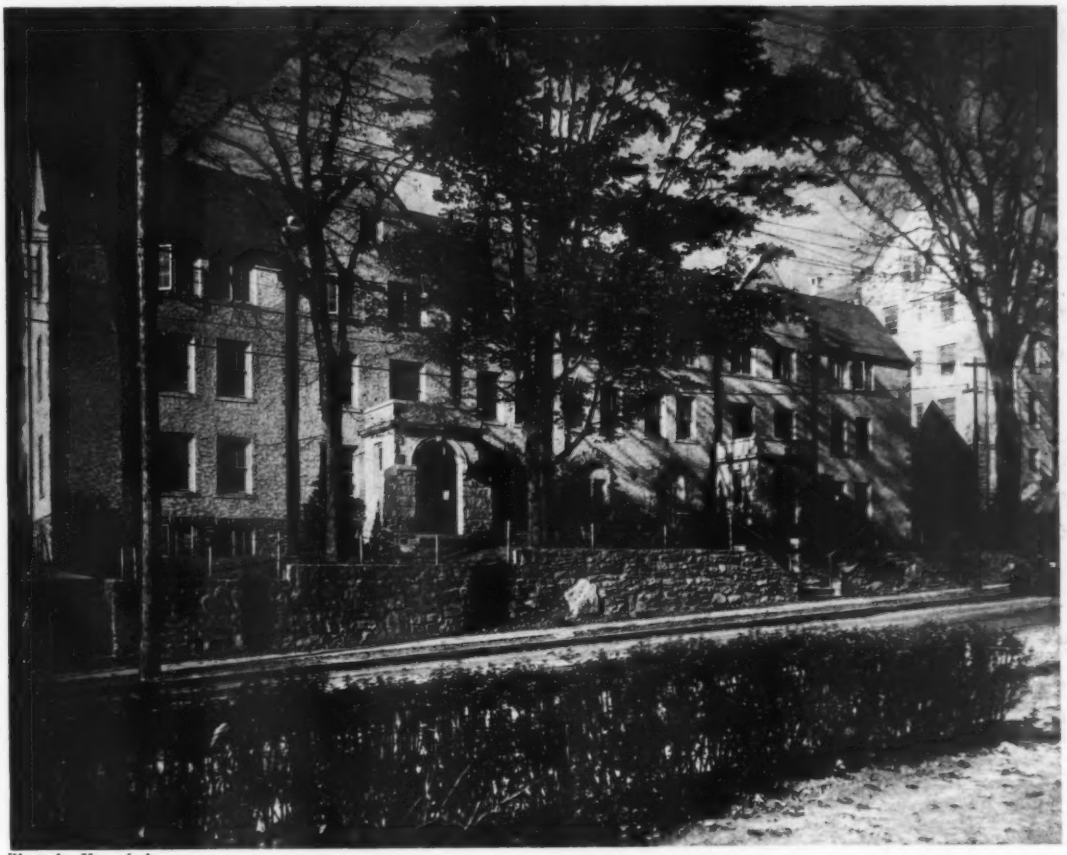
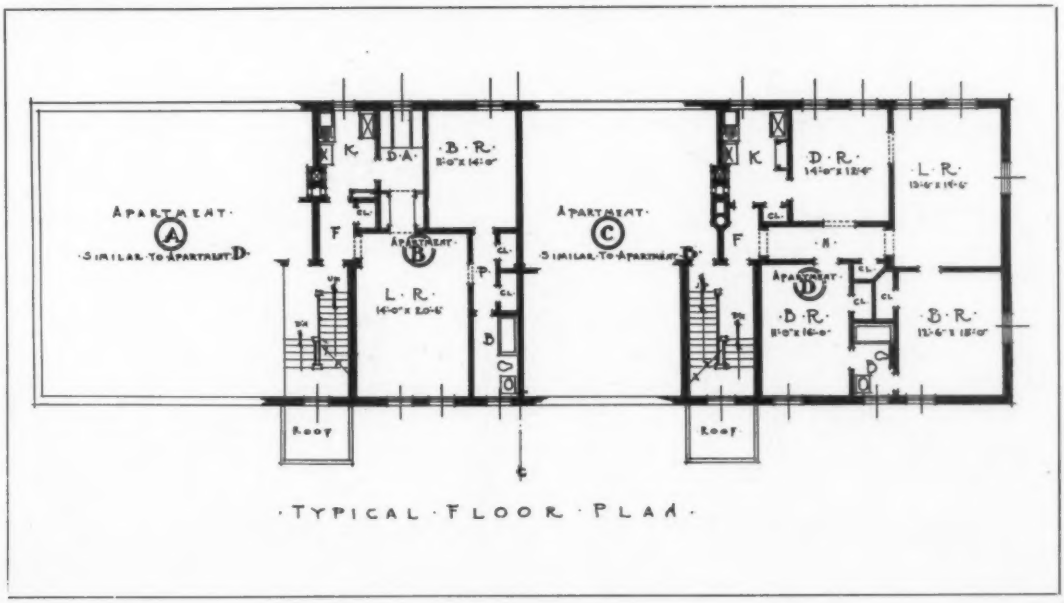


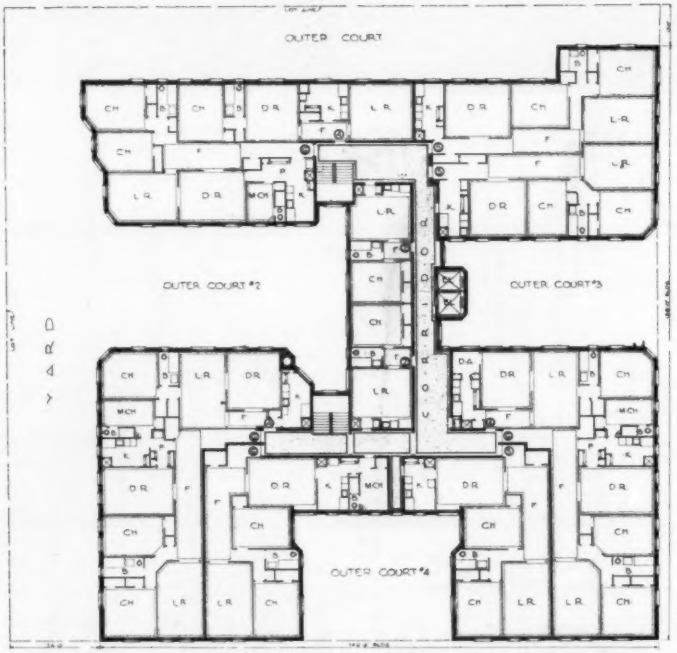
Photo by Van Anda



ELMS APARTMENTS, NEW ROCHELLE, N. Y.

LAURENCE LOEB, ARCHITECT

Photo by Guild

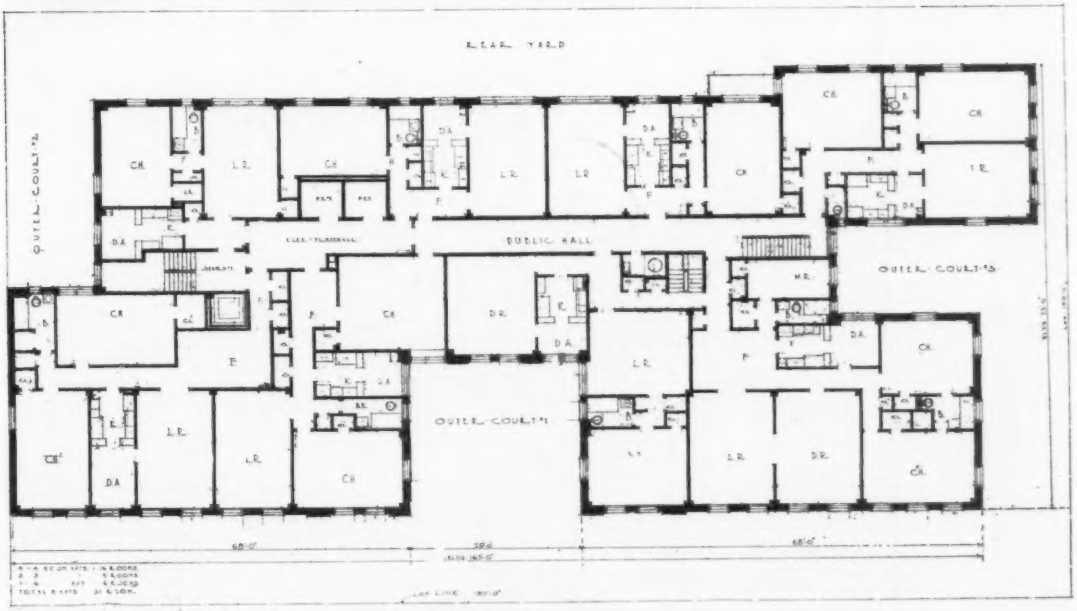


TYPICAL FLOOR PLAN

MAJESTIC COURT APARTMENTS, NEW YORK

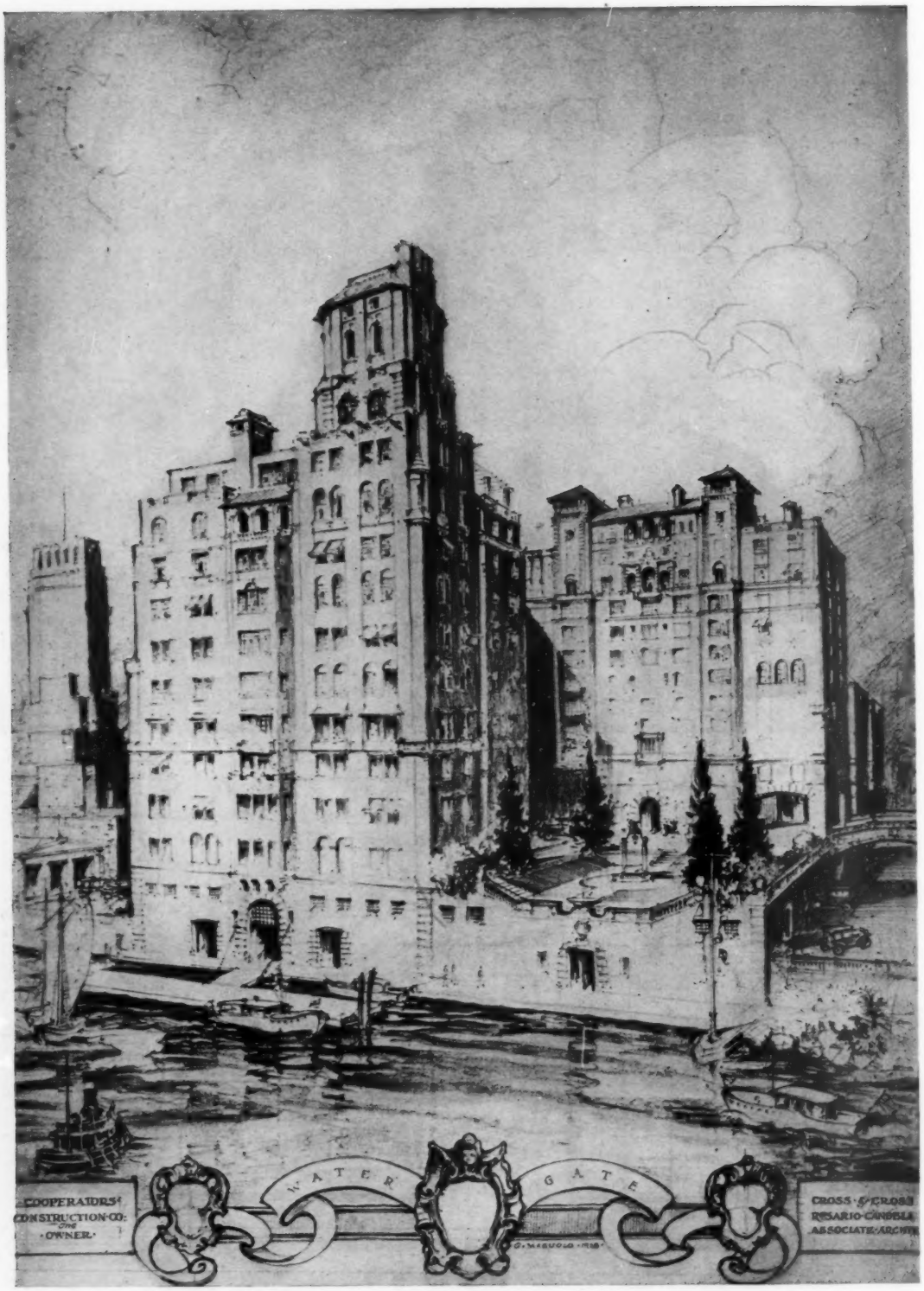
H. I. FELDMAN, ARCHITECT

Photo by Gillies



SHELBALL APARTMENTS, KEW GARDENS, N. Y.

SEELIG & FINKELSTEIN, ARCHITECTS



PRELIMINARY STUDY, WATERGATE APARTMENTS, NEW YORK

CROSS & CROSS, ROSARIO CANDELA, ASSOCIATE ARCHITECTS

INTERIOR ARCHITECTURE

▼ ▼ ▼

INTERIORS OF THE MODERN APARTMENT HOUSE

APPRECIATING the fact that the architectural treatment of the interior of the building, as well as of its exterior, should express in modern materials the economic and social conditions under which it was conceived, and, furthermore, that it should in some manner, at least, suggest the purpose which it is intended to serve, it would seem that the design of an apartment house, in its every detail, should logically be considered as a problem in the solution of which the modern style lends itself to peculiar advantage. For, unlike many of the buildings which we are called upon to design, the apartment house is purely a modern conception. It serves solely a modern purpose; modern materials are used almost exclusively in its construction to meet modern needs and requirements, while its plan is in reality governed more by modern modes of living than by architectural principles (although it often suffers as a result).

A modern style of architecture, as used here in relation to the design of a building which serves a purely modern purpose, is not to be confused with the term "modern" as so commonly employed to suggest an attempt merely to break away from the hackneyed historical styles or to satisfy a desire to do something new and different. As so often emphasized in the articles of this department, this latter interpretation of the word modern is not the modern in which we are interested. We are, however, interested in modern architecture which results naturally from a study and understanding of new problems and materials. Modern architecture, as we see it, is an attempt to apply the old established principles of architectural composition—the very same principles that guided the master-designers of the past—in the solution of our own peculiar problems. Thus, modern structural materials and the modern methods of construction

Photo by Gottscho

FIREPLACE DETAIL, LIVING ROOM IN THE APARTMENT OF ALFRED ROSE, NEW YORK

BUCHMAN & KAHN, ARCHITECTS

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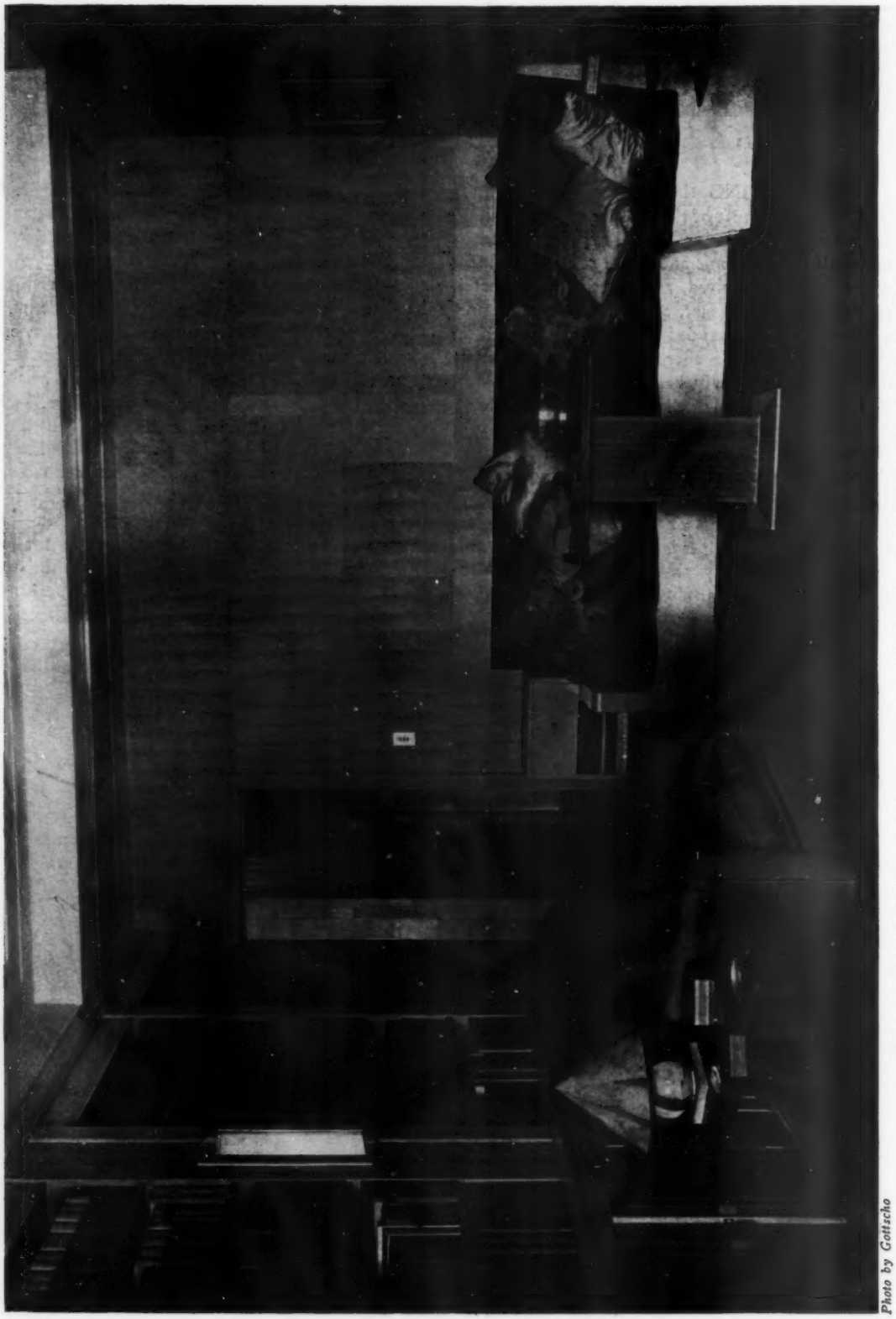

LIBRARY, APARTMENT OF ALFRED ROSE, NEW YORK—BUCHMAN & KAHN, ARCHITECTS

Photo by Gottscho

Photo by Gottscho

NURSERY IN THE APARTMENT OF ALFRED ROSE, NEW YORK
BUCHMAN & KAHN, ARCHITECTS

which they stipulate become the very foundation of architectural design.

We could find no better way to clarify our attitude than by pointing to a particular instance. Consider, then, for a moment, the design of the library in the apartment of Alfred Rose, New York, which is illustrated on the following page. It is necessary to describe certain structural features which were incorporated into the original fabric. On the east wall there were two closets installed, projecting into the room to a point flush with the ceiling beam, concealing from view the beam and an awkward soffit which might have appeared out of place if exposed. The architects, Buchman & Kahn, whose problem it was to treat the apartment in a style appropriate to its purpose, considered these closets as wasted space in a library. They were, therefore, removed and a built-in corner seat installed in their stead. To make the exposed ceiling beam appear logical, the plaster was torn away between the steel I-beams, and a glass panel was introduced to conceal lights which were placed inside the soffit of the beam. The beam, which before had been so awkward that even unnecessary means had been resorted to in order to conceal it, now appeared as a logical feature of the room, serving as an element of the lighting scheme. Certain pieces of furniture, designed in keeping with the built-in seat, completed the ensemble, and, on the adjoining north wall, bookcases were installed, correctly designed, flush with the ceiling beam, allowing of necessary space for books without waste of space.

To our way of thinking, this is modern architecture in that a peculiar modern problem has been solved in a thoroughly logical manner. In a transitory time, such as this, when a new style is in its formative stage, we must not forget that after all logic is all-important. If certain of that group of designers who choose to call themselves "modernists" would give more thought to logic, we would not be called upon to criticize their efforts to create "something different." If we have a logical reason for developing a design that is different, as Buchman & Kahn did in making the soffit of a ceiling beam a feature of the lighting scheme of a room, well and good, we may consider such action as a contribution to progress, but to design a chair in unusual forms, with the result that it is uncomfortable to sit in and not particularly inviting to look at, merely for the sake of departing from period forms, then it is time to arouse the architectural profession to action.

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Photo by Gottscho

LIVING ROOM, APARTMENT OF ALFRED ROSE, NEW YORK—BUCHMAN & KAHN, ARCHITECTS

Photo by Gillies

MAIN LOBBY, SHELBALL APARTMENTS, KEW GARDENS, N. Y.—SEELIG AND FINKELSTEIN, ARCHITECTS

ABOVE, TYPICAL BEDROOM. BELOW, PRIVATE DINING ROOM
GROVELAND APARTMENT HOTEL, MINNEAPOLIS, MINN.—LARSEN & McLAREN, ARCHITECTS

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ELEVATOR LOBBY, GROVELAND APARTMENT HOTEL, MINNEAPOLIS, MINN.
LARSEN & McLAREN, ARCHITECTS

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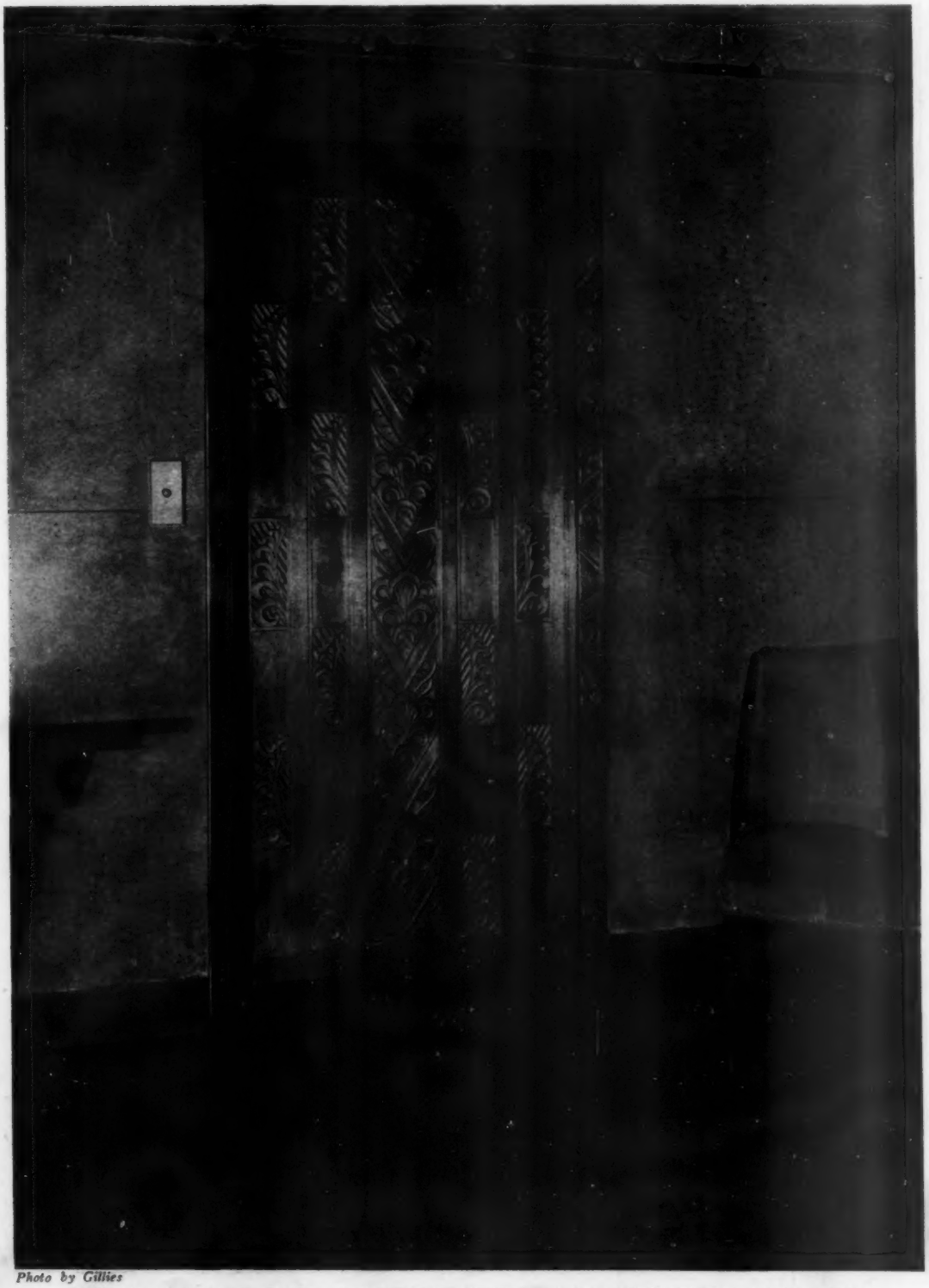


Photo by Gillies

DETAIL ELEVATOR DOOR, APARTMENT HOUSE, 3 EAST 84TH STREET, NEW YORK

RAYMOND M. HOOD, ARCHITECT

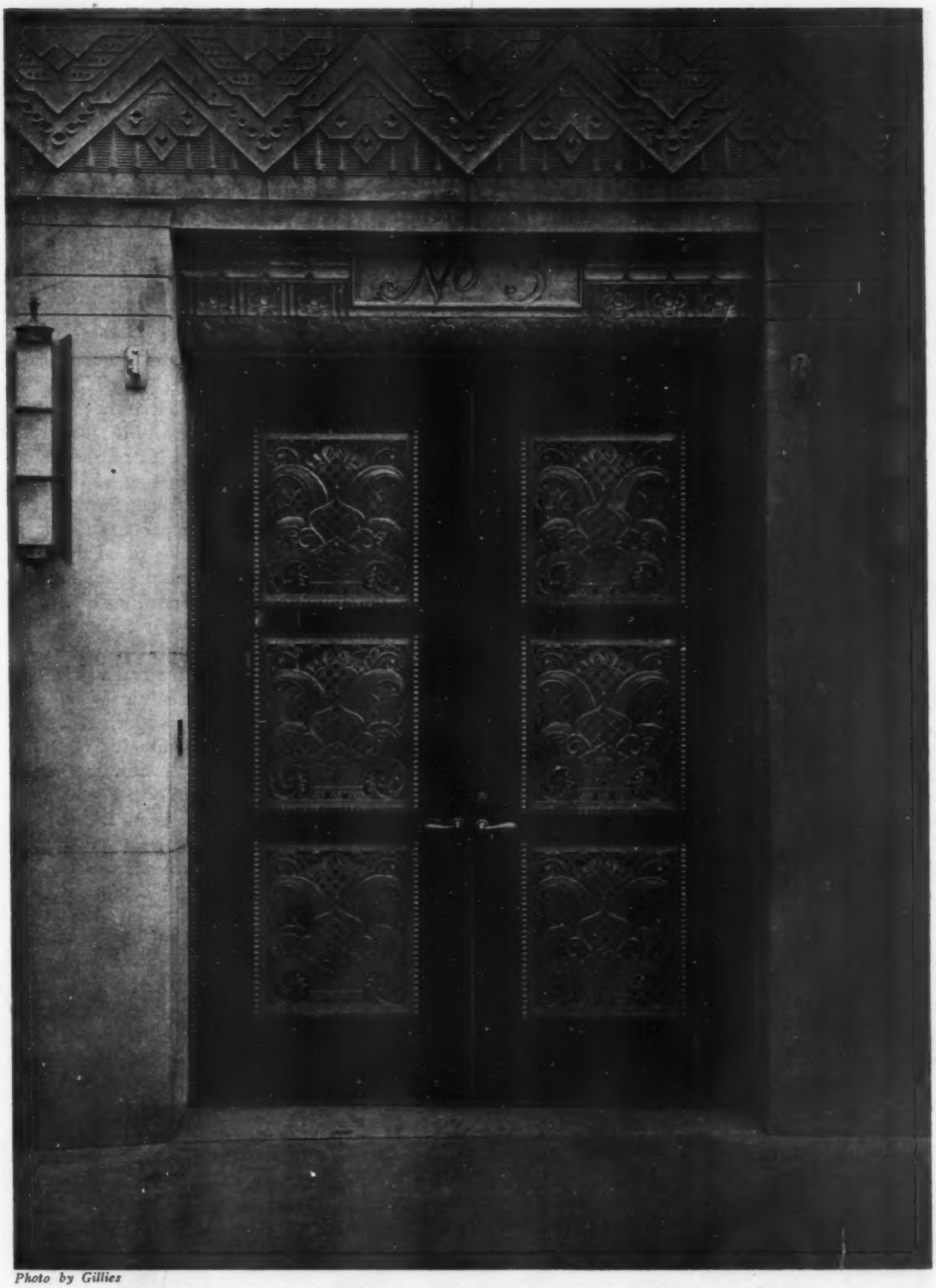


Photo by Gillies

ENTRANCE DETAIL, APARTMENT HOUSE, 3 EAST 84TH STREET, NEW YORK

RAYMOND M. HOOD, ARCHITECT

XUM

EDITORIAL COMMENT

A ROYALTY ON SKYSCRAPERS

MANY of us were surprised to hear that the principle by which the skyscraper was made possible was invented and patented by an architect and engineer nearly fifty years ago. Stranger still, it may seem, the patentee is to receive now his first royalty, the first tangible recognition of his invention on a building constructed after his ideas. Leroy S. Buffington, of Minneapolis, Minn., now in his ninetieth year, might well be called "the father of the modern skyscraper." The principle conceived by Mr. Buffington in 1880 and later patented by him was a braced skeleton of steel with a steel shelf at each floor to hold the masonry veneer. The buildings which he evolved on this idea he designated as "cloudscrapers." He was mocked at, derided, called a "crank" and a "dreamer," but went right ahead, and in 1882 drew his first perspective of a 28-story cloudscraper, in accordance with specifications in the patent application. Various suits for infringement were later instituted which dragged on so long that the patents ran out. The attention of the owner of a tall building, now in course of construction in Minneapolis, was recently directed to an article in which Mr. Buffington's story was related in detail. He investigated and found that the architect had asked for a royalty of one-eighth of one per cent and immediately decided to pay Mr. Buffington his due. It would be interesting to know just how much money the original inventor would have received during the intervening years if a royalty had been paid him on every skyscraper erected according to his principle.

VIEWING A CITY BUILDING

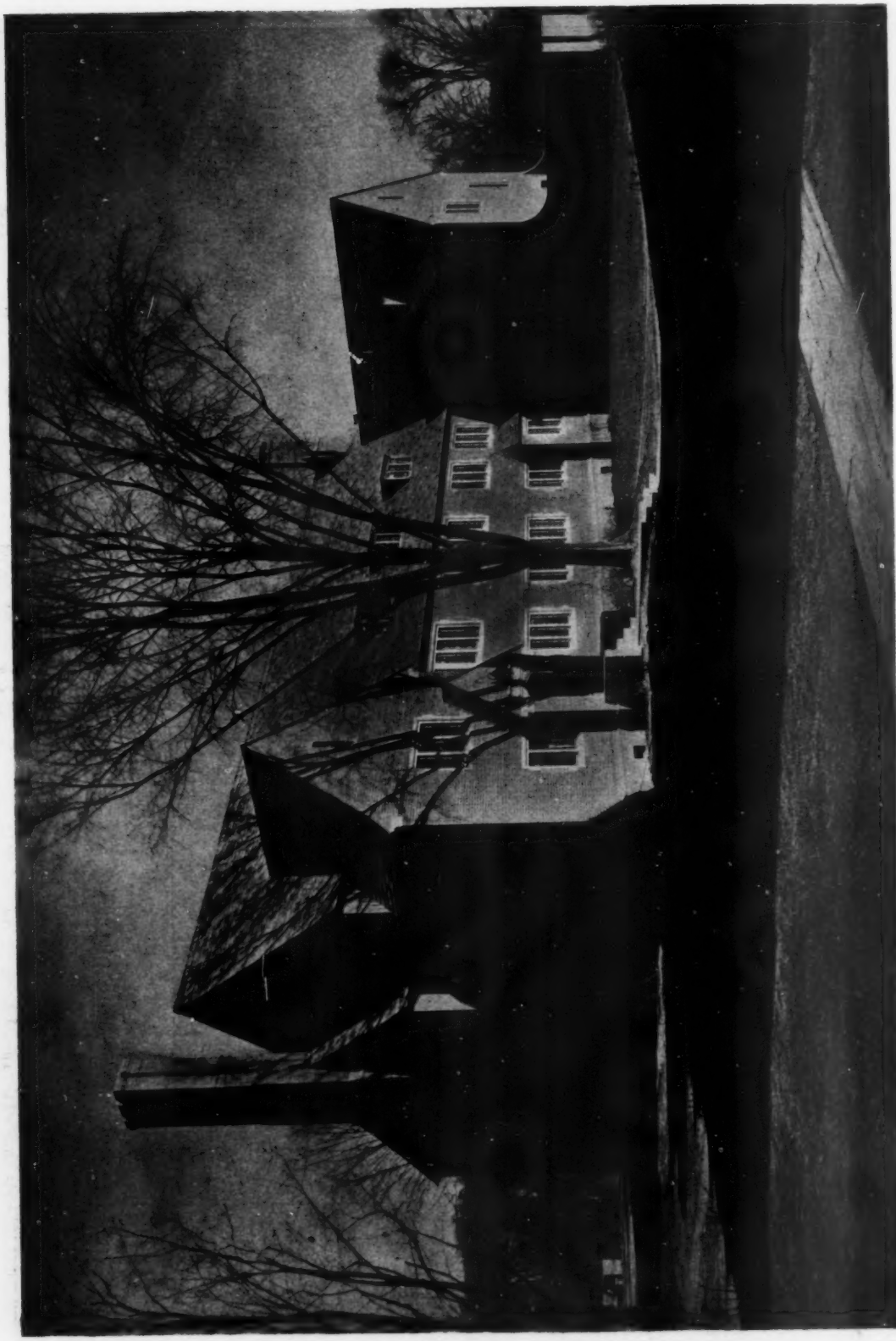
IT is only occasionally that a building in our modern cities is so located that it may be seen by the pedestrian in its entirety, as a complete architectural composition. On a street of average width perhaps the lower six stories of buildings come within the range of the eye of those passing on the opposite side, while the facades of those buildings in the distance, which, in perspective, come within the line of vision, are so foreshortened that it is impossible to determine their architectural treatment. Occasionally, however, an architect is commissioned to design a building which is not to be shut in on all sides by towering structures. Such was the case, for example, afforded the architect of the American Radiator Building, New York. Facing the building is a city park, so that the pedestrian may obtain an unobstructed view of it when walking on a street two blocks away. The Fisher Building, located at the terminal of one of the main thoroughfares of Detroit, was designed to take complete advantage of the opportunity that its peculiar site offered. This state of affairs must be considered by architects when designing city buildings, and we can often readily account for certain liberties taken when we see the building finally erected which we could not understand when examining the perspective and scale elevations. There is being completed in New York now a building, the location of which is unusual from an architectural standpoint. It is actually built over a street and traffic continues through arches cut through the ground floor. Furthermore, the street happens to be one of the most important thoroughfares of the city. The result is that, approaching midtown, where the building is located, the vista which greets the eye continually terminates in this important edifice. What an opportunity! What architect would not have jumped at a chance to design this building! Ideals, which may have accumulated for years in the hopes of some time obtaining just such an opportunity as this, might at last become realities! But what did the architects who got the job do? Certainly, not the best that might have been done. To us, they missed the grandest chance for fame with which they ever could or ever will be presented. The building to us is not symbolic of the "gateway to the city," as the owners have designated it.

ST. PAUL'S SCHOOL DORMITORY

CONCORD, N. H.

CHARLES Z. KLAUDER, *Architect*

Photo by Weber



ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.— CHARLES Z. KLAUDER, ARCHITECT

Photo by Weber

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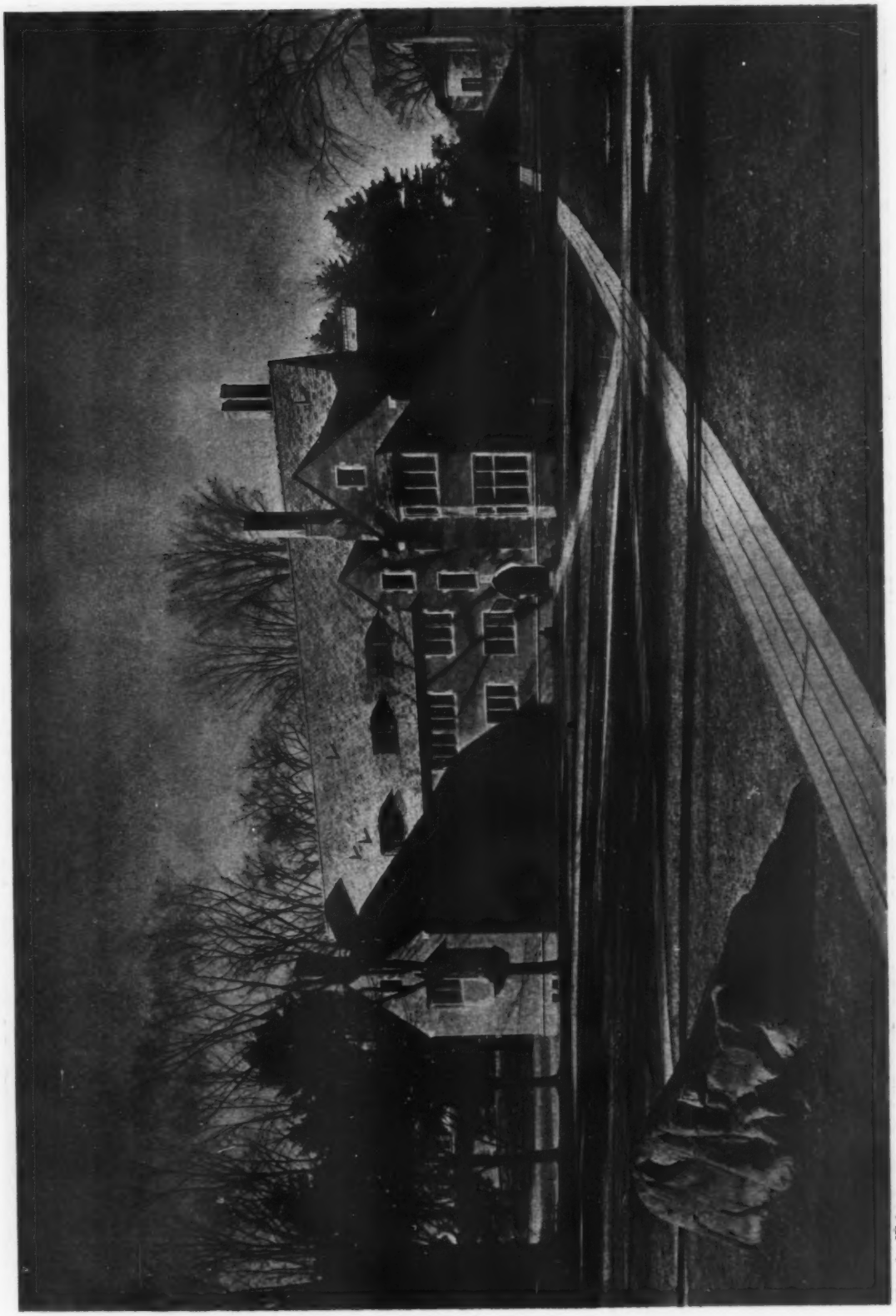

ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.— CHARLES Z. KLAUDER, ARCHITECT

Photo by Weber

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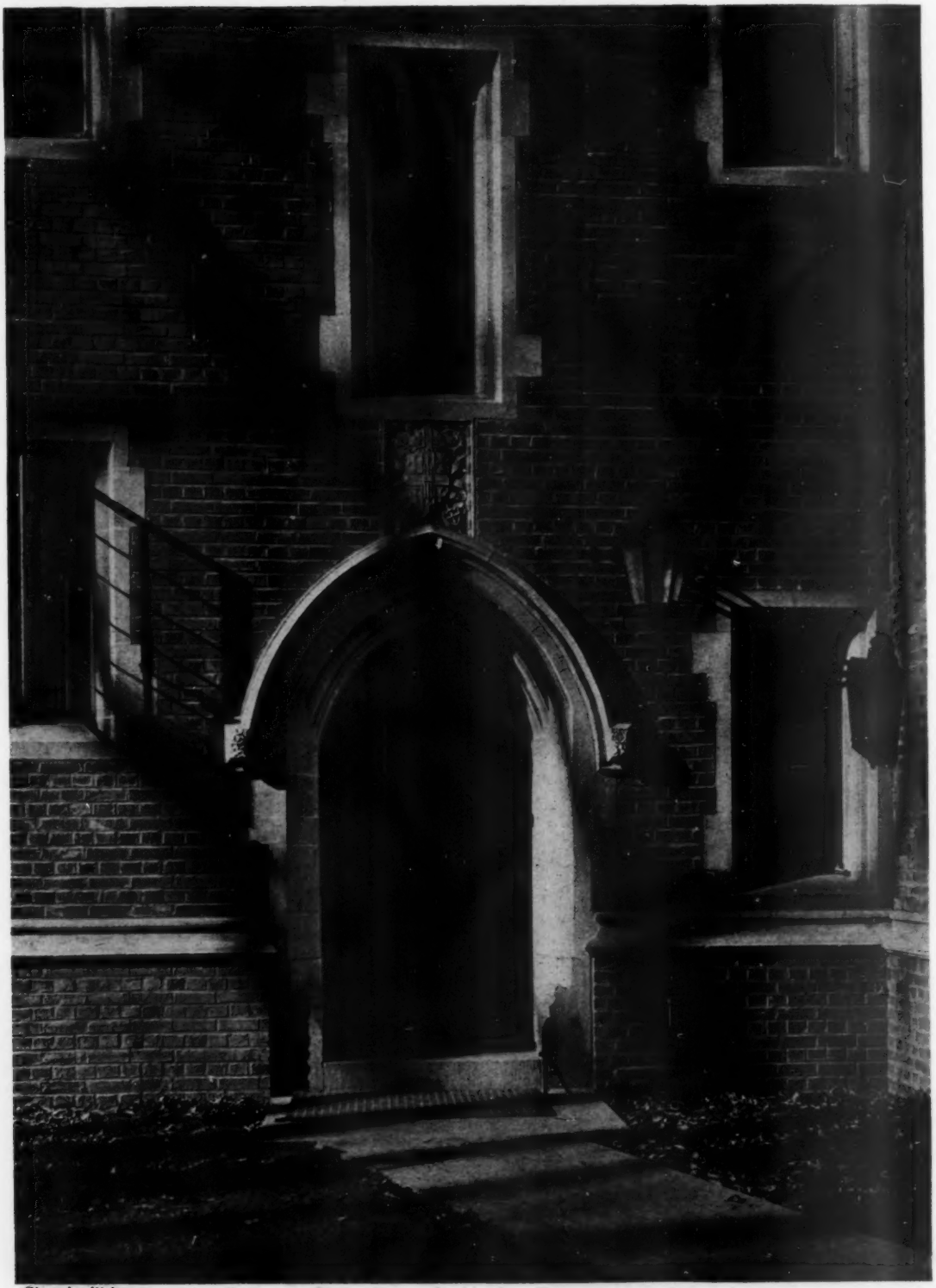

Photo by Weber

ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.—CHARLES Z. KLAUDER, ARCHITECT

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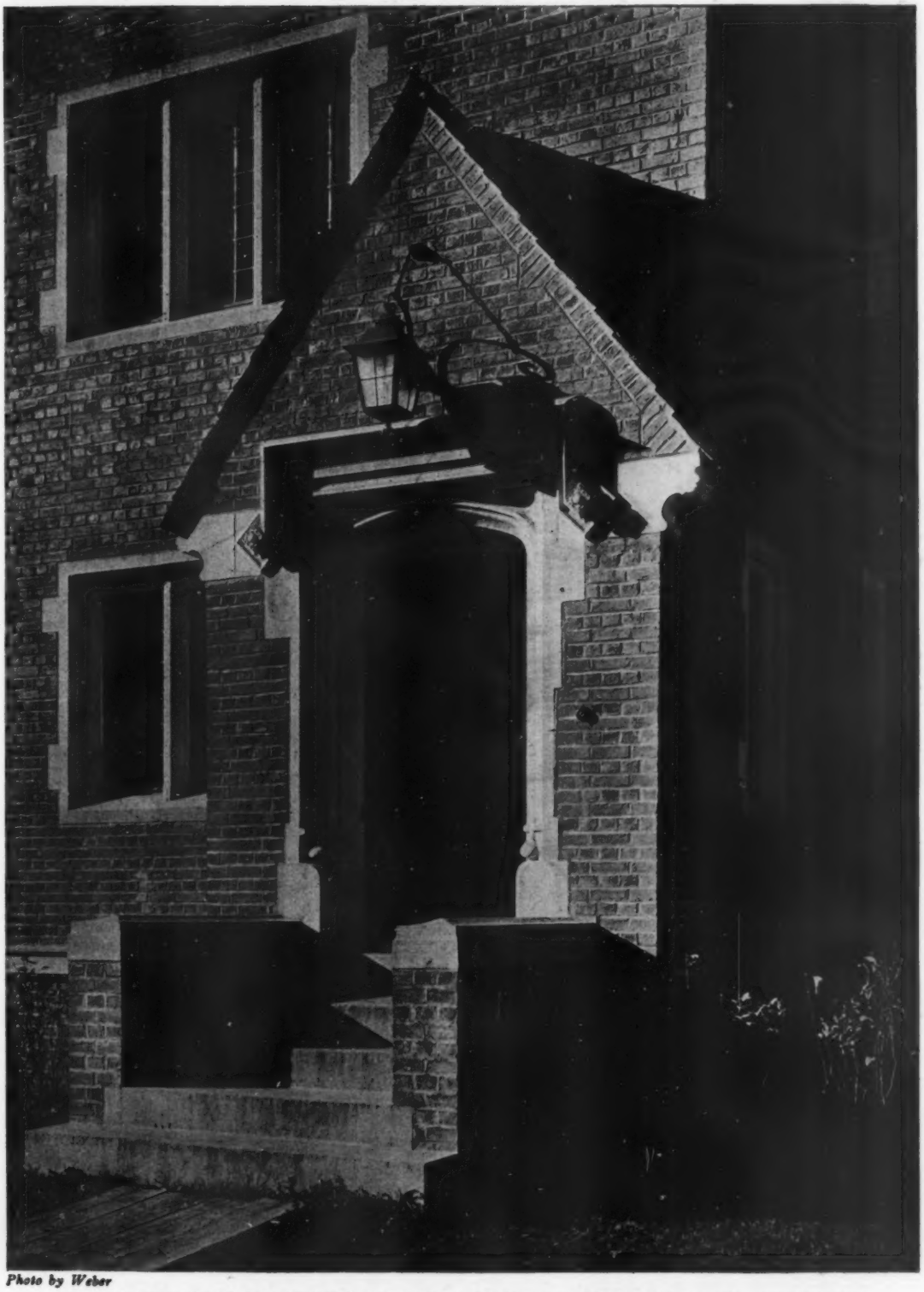

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ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.—CHARLES Z. KLAUDER, ARCHITECT

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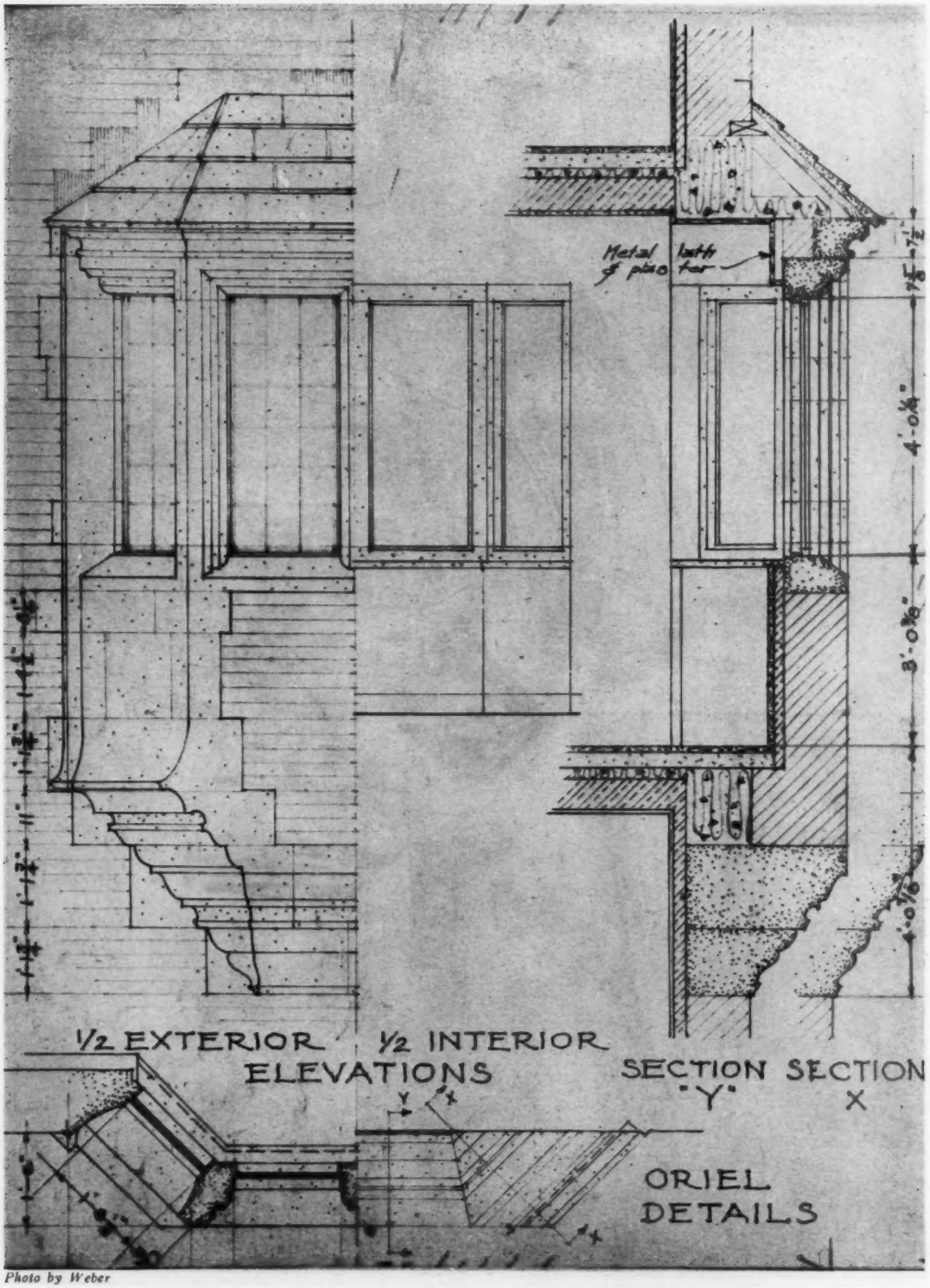

Photo by Weber

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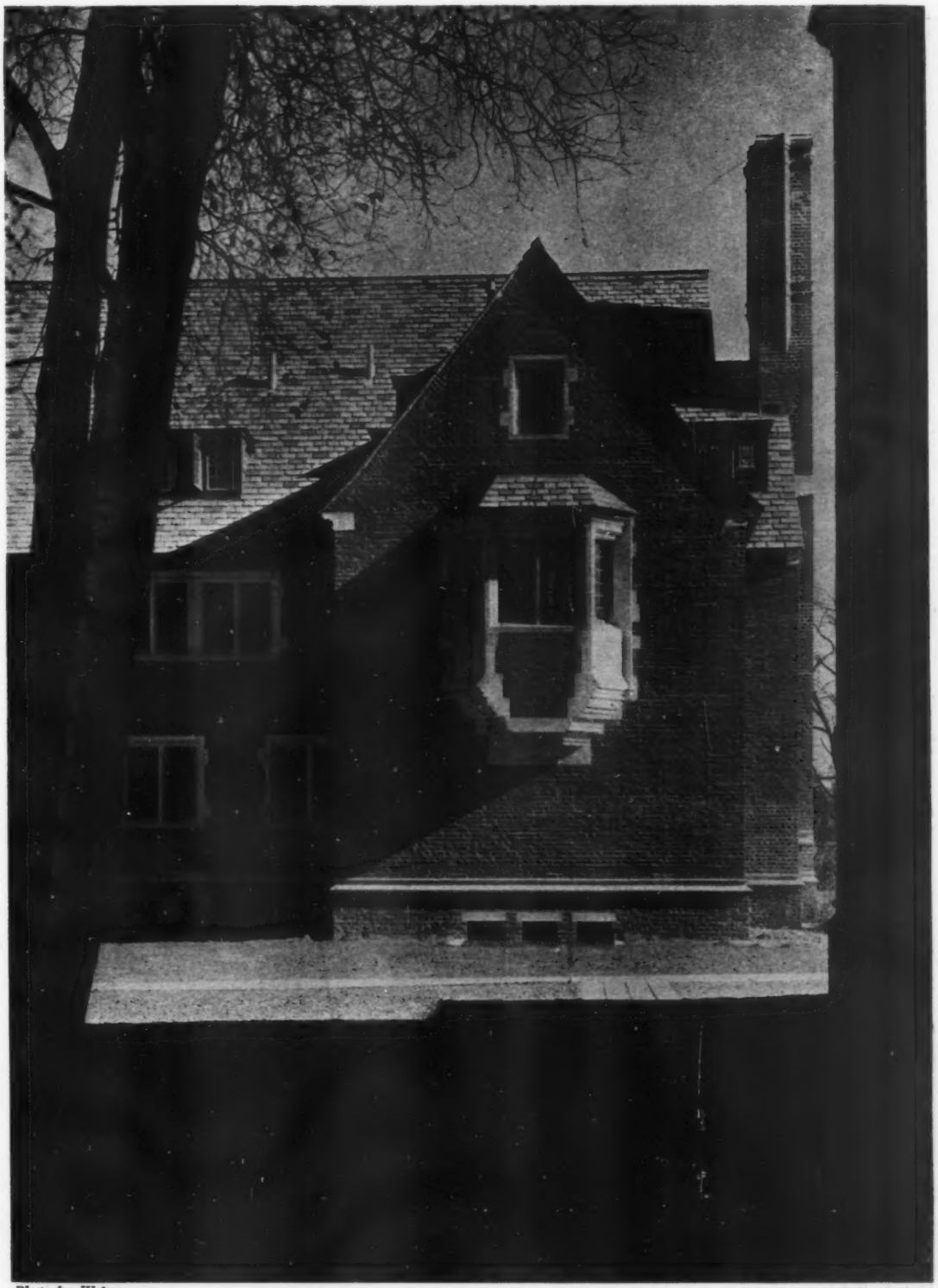
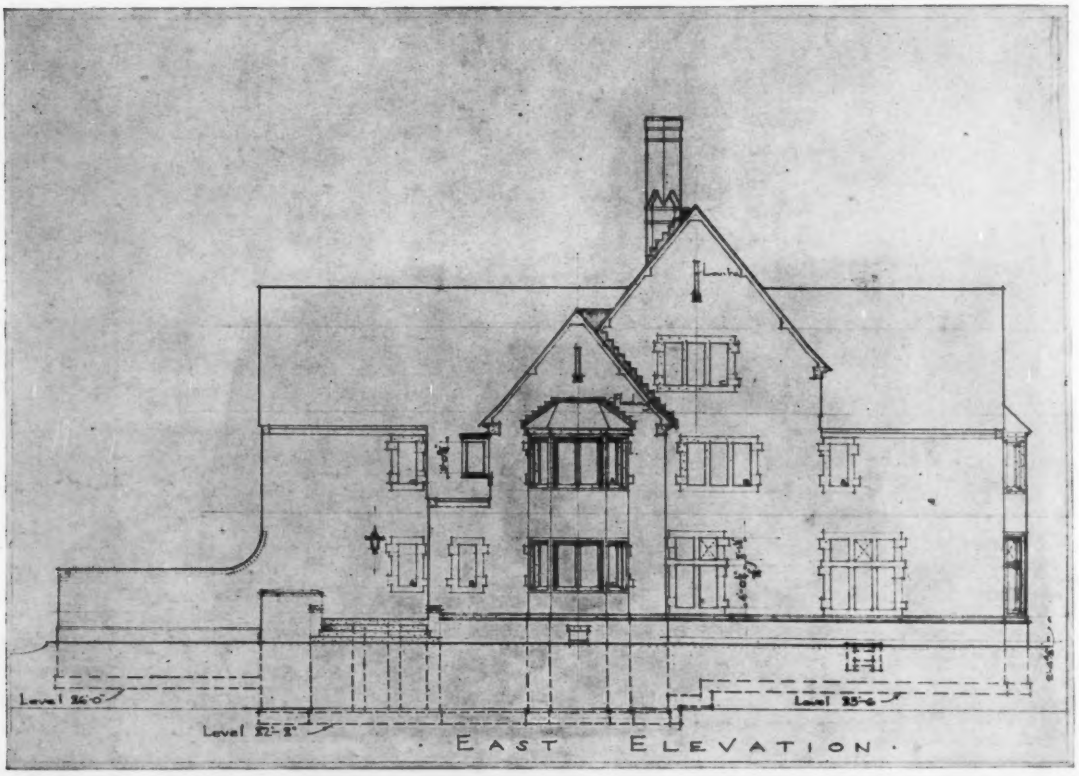


Photo by Weber

ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.—**CHARLES Z. KLAUDER, ARCHITECT**



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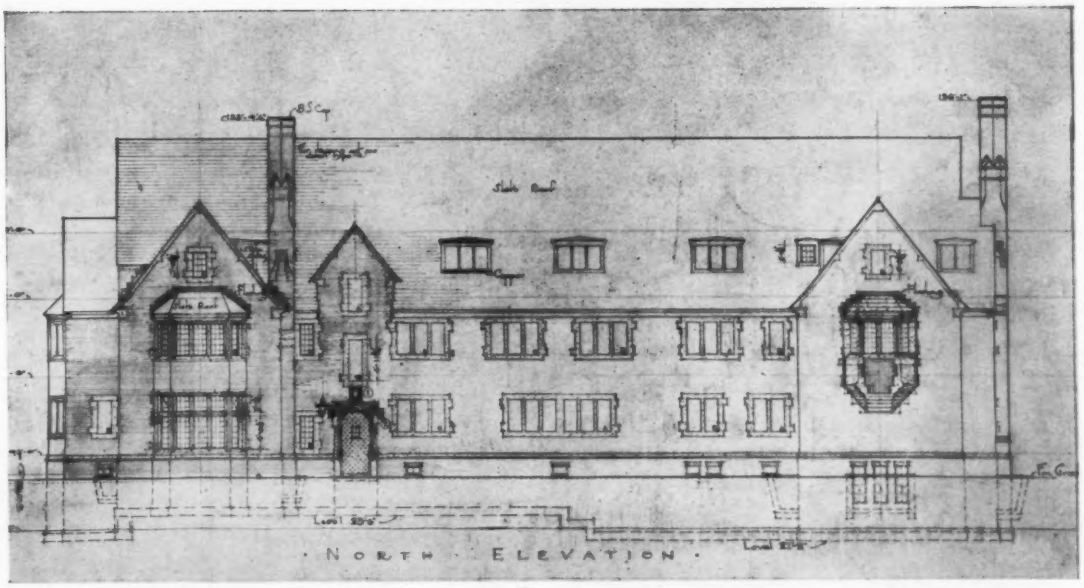

Photo by Weber

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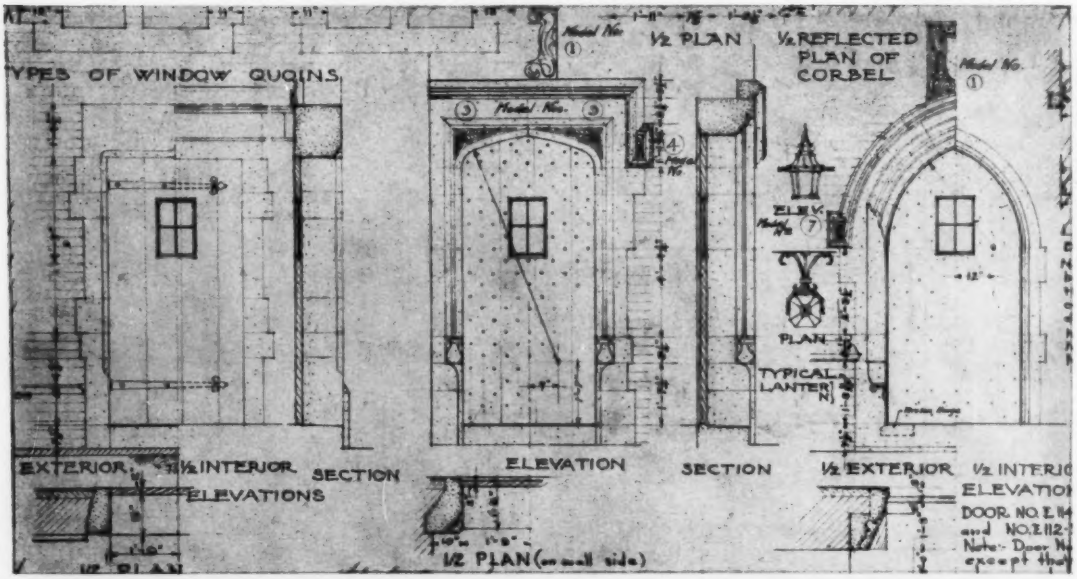

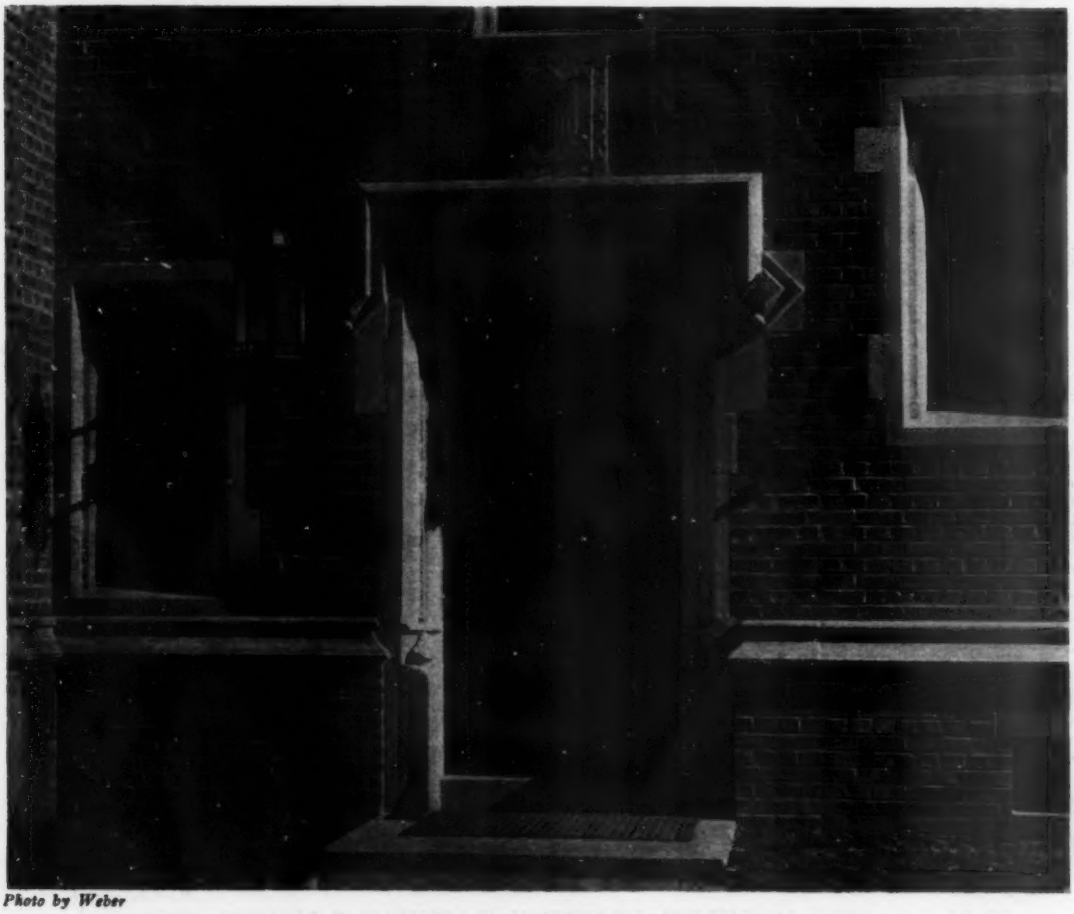

Photo by Weber

ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.

CHARLES Z. KLAUDER, ARCHITECT

Photo by Weber

POWER AND HEATING PLANT AND WORKSHOPS, ST. PAUL'S SCHOOL, CONCORD, N. H.

CHARLES Z. KLAUDER, ARCHITECT

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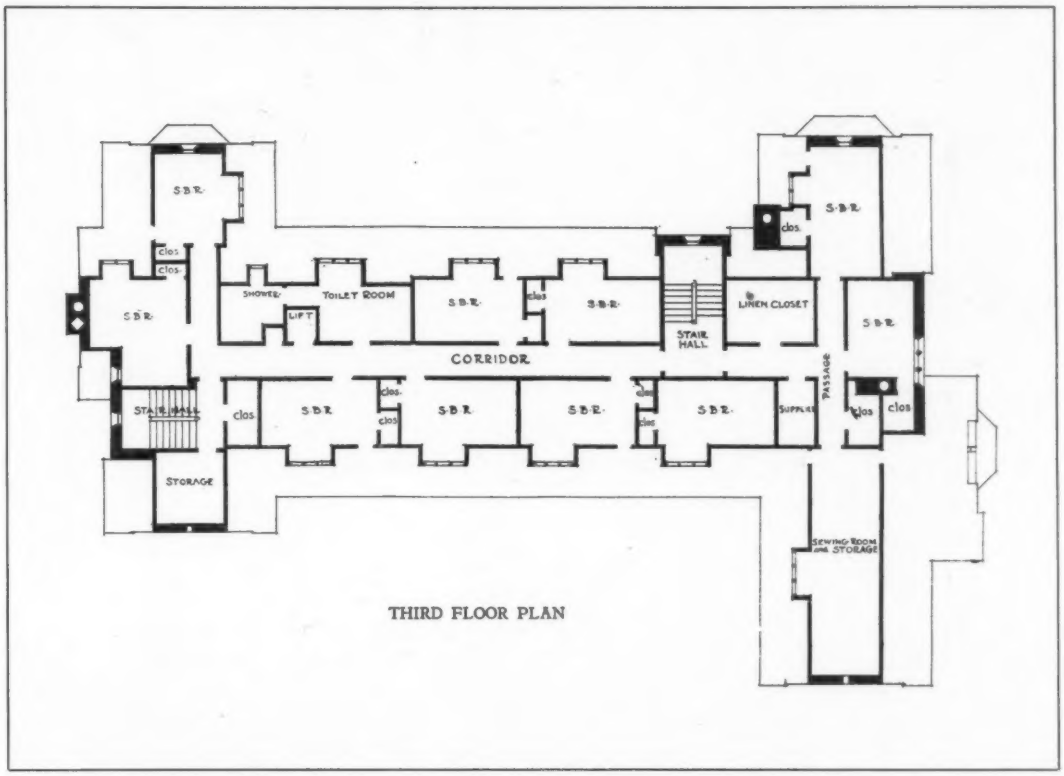
ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.—CHARLES Z. KLAUDER, ARCHITECT



THIRD FLOOR PLAN

Photo by Weber

ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.—CHARLES Z. KLAUDER, ARCHITECT

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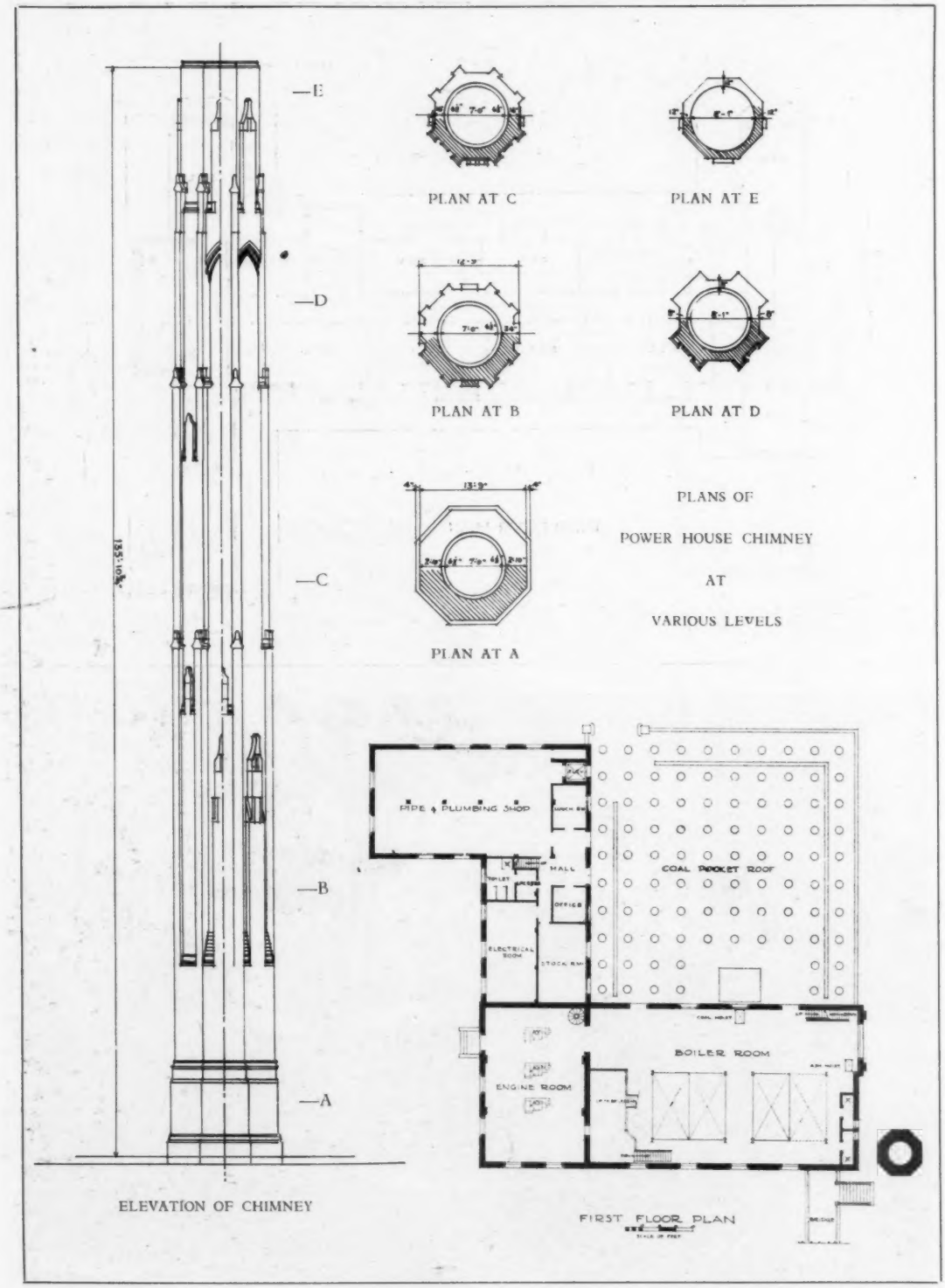

POWER AND HEATING PLANT AND WORKSHOPS, ST. PAUL'S SCHOOL, CONCORD, N. H.

CHARLES Z. KLAUDER, ARCHITECT

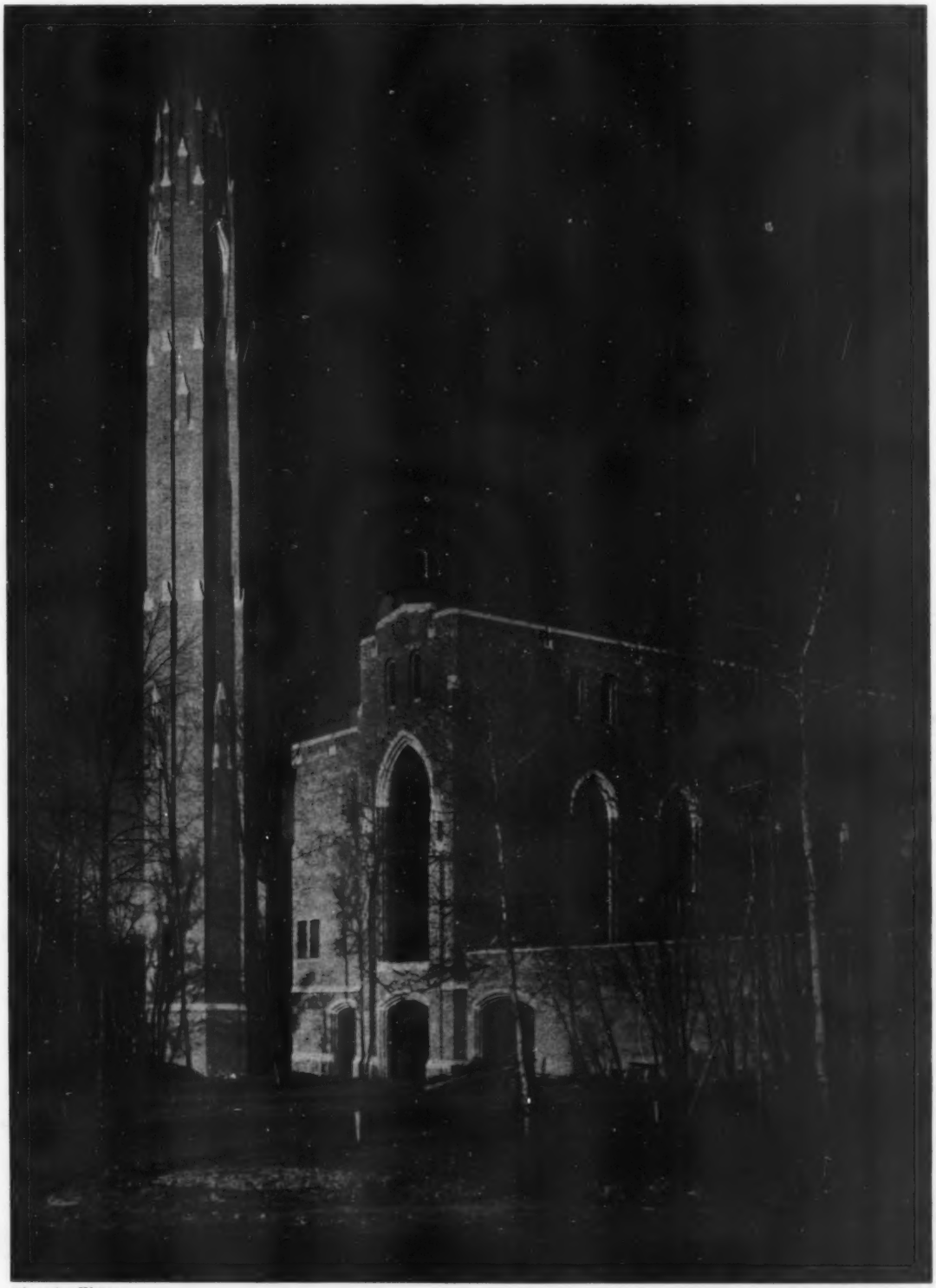

Photo by Weber

POWER AND HEATING PLANT AND WORKSHOPS, ST. PAUL'S SCHOOL, CONCORD, N. H.

CHARLES Z. KLAUDER, ARCHITECT

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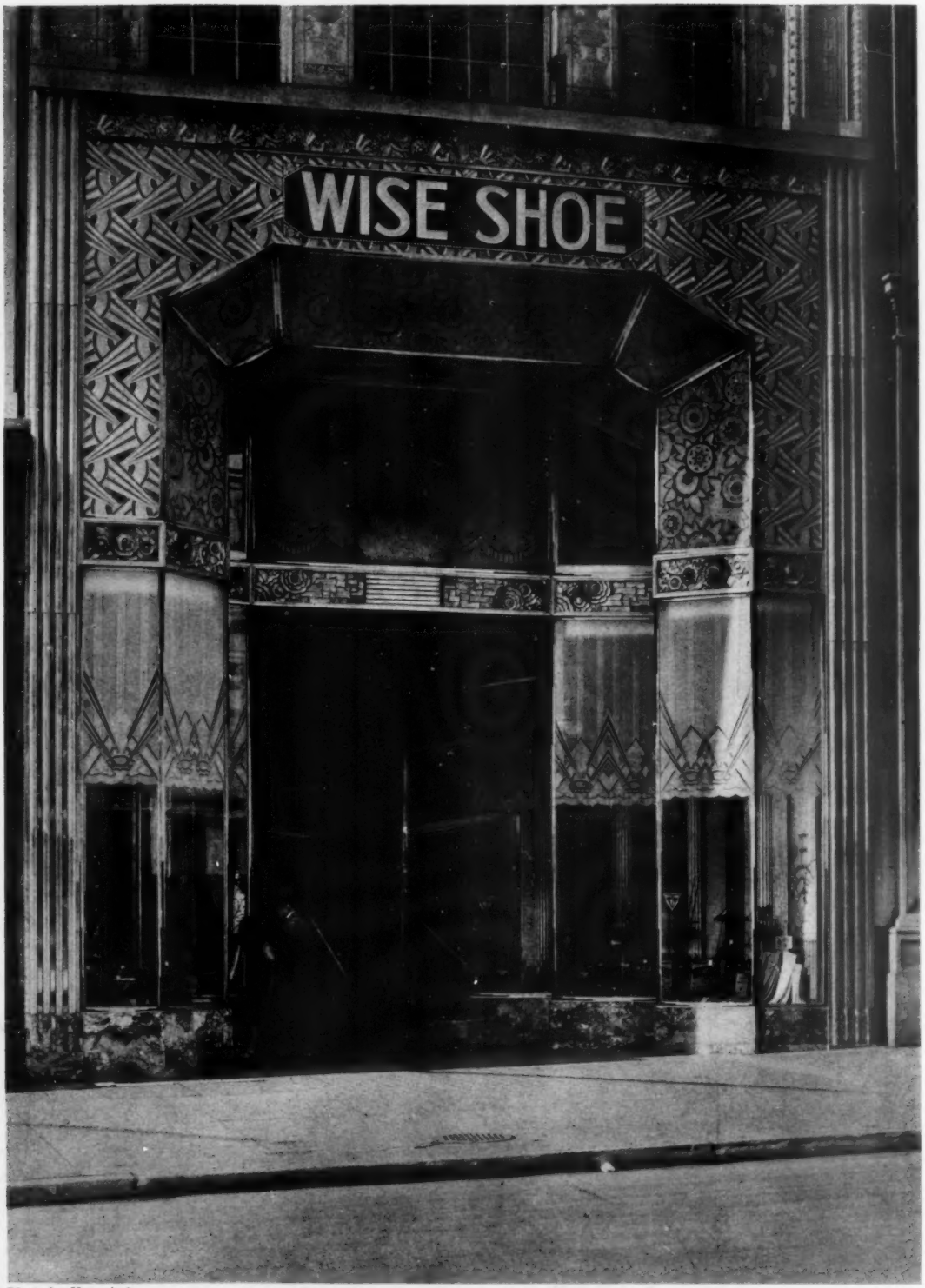

Photo by Van Anda

WISE SHOE SHOP, NEW YORK, N. Y.

ELIAS ROTHSCHILD & COMPANY, DESIGNERS

◉ ENGINEERING AND CONSTRUCTION ◉

ENGINEERING PROBLEMS OF RADIO BROADCASTING STUDIO DESIGN

AMONG the amazing developments in all fields of endeavor during the past quarter century, none have been more rapid or spectacular than that to be seen in radio broadcasting. Rapid progress in the perfection of radio broadcasting and receiving equipment has been stimulated by the immediate and enthusiastic acceptance by the public of the radio idea. Commercial success of the project depended upon three factors—perfected equipment for sending programs over the air, simple dependable receiving sets, and programs of such character that continued public interest would be assured. The very nature of the business required the coordination and perfection of all departments as quickly as possible.

Radio sending and receiving equipment is a matter of electrical and mechanical engineering design. If the recent development of television is excepted, radio programs depend upon artists who perform audibly. The success of a program depends upon the efficiency of the electrical equipment, the artists, the artists' program, and often upon the studio from which the program is sent.

The correct design of the studio is fundamental and common to both the quality of broadcasting programs and the quality of the product sent out, if it can be so described. The design of the broadcasting studio then becomes a modern architectural problem analogous to that of the moving picture studio, airplane hangar or other structure that houses a twentieth century development.

Radio broadcasting is such that programs must be accurately timed and must be sent out on a predetermined schedule. Programs must usually be rehearsed before they are publically released. The entertainment features may vary from a solo artist to an orchestra of fifty or sixty persons. It is at once apparent that both operating demands and economy require the providing of several studios, of different sizes, for independent and simultaneous use. Economy of space, as well as the elimination of outside street noises, make it desirable to employ interior rooms accessible to the artists' reception room, the "green" rooms, and radio control rooms.

The studios of the National Broadcasting Company in New York are unique in that all aspects of broadcasting have been carefully considered in their design. These considerations may be classified under two divisions—the soundproof and acoustical effect of the studio on the quality of the product sent over the air, and the atmospheric effect of the studio on artists and musical instruments.

The architecture and illumination of the studios have in general been given simple direct treatment. The largest studio of the National Broadcasting Building, which is located on the 15th floor, is a room of about 2,800 square feet and about 22 feet high, containing a more elaborate system of illumination. Eight free standing pilasters function to conceal a series of illuminating units. Between the pilasters, a horizontal series of reflectors is concealed by the wainscot extending around the entire room.

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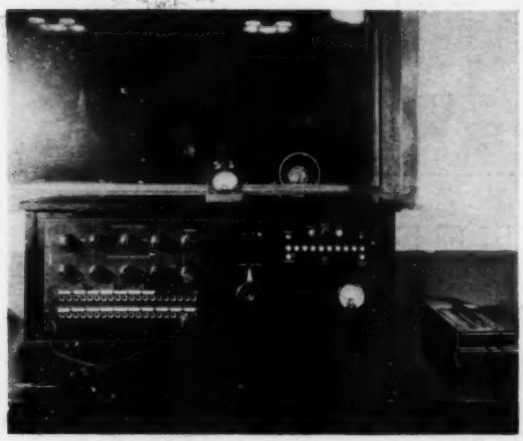
Large hanging fixtures conceal equipment for special lighting effects. Lights are arranged on three color circuits—white, red and blue, controlled by dimmers located in the switchboard room. Spot lights placed in the light control room permit additional stage lighting effects.

It is fact and not theory that human beings function mentally to the best advantage under certain temperature and humidity conditions of the atmosphere. A warm humid condition has a depressing effect, while cool dry air is stimulating and invigorating. Atmospheric conditions also have an

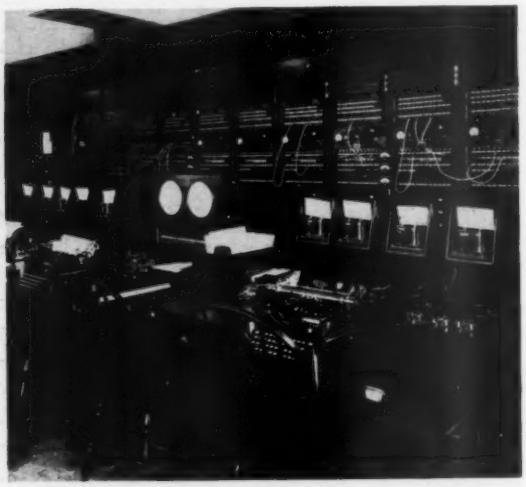


FROM A BOOTH ADJACENT TO THE STUDIO THE MONITOR SEES THROUGH A SOUNDPROOF WINDOW THE ARTISTS BEFORE THE MICROPHONE, THROUGH A REPRODUCER HE HEARS THEM, AND THROUGH THE "CONTROL BOX" HE CONTROLS THE EVEN QUALITY OF THE OUTPUT OF THE STUDIO

important effect on musical instruments, whose pitch and timbre are affected by changes in temperature and moisture content in the air. As a result air conditioning assumes an important role in broadcasting studio design and becomes mandatory since the studios must be, in effect, hermetically sealed to make them soundproof.

A completely sealed room must first of all be made livable by the introduction of fresh air and the removal of vitiated air, which is merely another way of saying that the studios must be adequately ventilated. This is neither a difficult nor unusual engineering problem in itself. Any difficulty in the ventilation of broadcasting studios arises from the necessity of maintaining a series of rooms of varying size, in which the number of occupants is continually changing at short intervals, at a uniform temperature and satisfactory humidity. The demands of individual studios as respects the quantity of air to be supplied at a given temperature and humidity therefore changes frequently and is seldom the same for any two studios. The ventilating system must therefore be flexible in operation to a high degree and so designed that no matter what the outside atmospheric conditions may be, uniform "weather" will prevail in the studios.

The air conditioning plant as installed in the National Broadcasting Building consists of an air chamber through which outside air is drawn and passed through an air washer and dehumidifier. When the outside temperature requires it, the water, before passing through the air washer, is passed through a refrigerating machine to lower its temperature below that required in the studios. The air is drawn in by a supply fan of about 30,000 cubic feet per minute capacity. From this point, air is distributed through separate ducts to the individual studios and other rooms requiring ventilation. Each duct has its own tempering coils which are automatically controlled by a pneumatic system operated by sensitive thermometers connected with the studios. Air is withdrawn from



MAIN CONTROL ROOM SHOWING REGULAR AND SPARE STUDIO AMPLIFIERS, AND LINE AND MONITORING AMPLIFIERS. MORSE TELEGRAPH INSTRUMENTS IN THE FOREGROUND ARE USED FOR COMMUNICATING WITH ASSOCIATED STATIONS

the various rooms by an exhaust fan. Automatic dampers permit the air to be recirculated as conditions require.

The air supply is introduced to the studio through openings in the ceilings. Diffusing plates placed about four inches below the ceiling distribute the air in all directions. The air is exhausted through grilled openings in the walls placed near the floor line. A system of automatic temperature and humidity control enables each studio to be tempered independently of any other. The cubic feet of air supplied to each studio is

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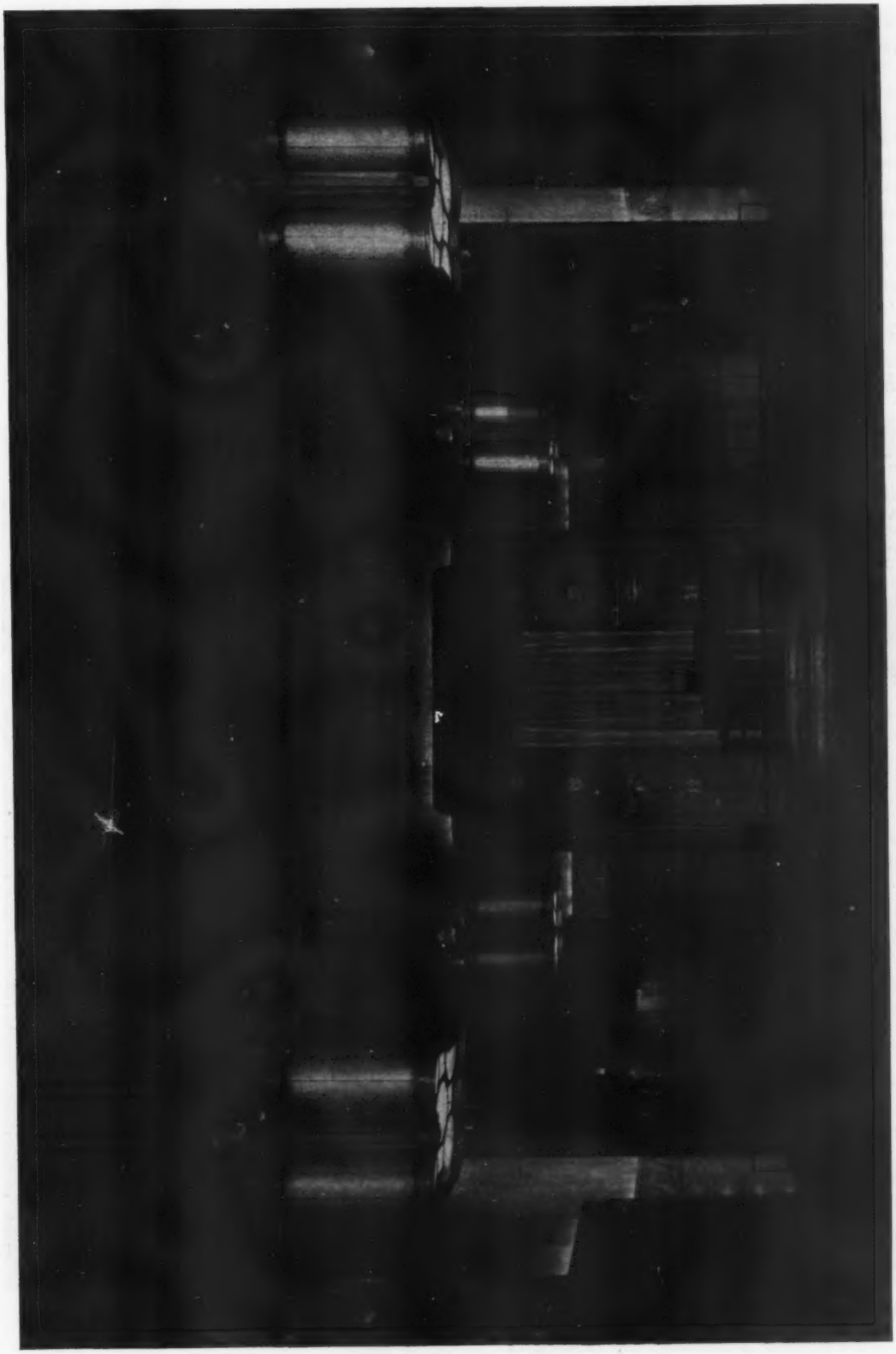

MAIN STUDIO "H," NATIONAL BROADCASTING COMPANY, NEW YORK
RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS

based upon the air capacity required to maintain a temperature of 70° to 72° at a relative humidity of 55 to 60 per cent. The temperature of the air introduced into the studios depends upon the amount of heat from human beings, electrical devices and other sources that must be absorbed. As a check upon the air conditions, sensitive recording thermometers maintain a record of each of the eight individual studios. The plant has now been in operation for one year and has proven to be sound in engineering design and to have produced the anticipated results.

To prevent the ventilating ducts from acting as conductors of sound into the studios, the ducts were soundproofed and a separate system of ducts was installed for each studio. The supply ducts were lined on the inside with sound absorbing board to prevent the transmission of noises within the duct to the outside. The exhaust ducts were also lined with sound absorbing board for a short distance back from the exhaust opening and fitted with baffles of the same material to break up the air currents and prevent noise due to possible high velocities. As a further precaution against possible noise from the ventilating equipment the ceiling diffusers are of metal covered with hair felt.

The studio rooms are soundproofed by a simple but effective method, based upon the breaking of all solid connections between the finished surfaces of the rooms and the building structure and the use of sound absorbing materials between. This system makes use of metal isolators separated by felt

TYPICAL SMALL STUDIO SHOWING ANNOUNCER'S CONTROL BOX AT LEFT OF SOUNDPROOF WINDOW OF MONITOR'S BOOTH, VENTILATING EXHAUST, DUCT GRILLS, AIR DIFFUSER AT CEILING AND MOVABLE SOUND ABSORBING CURTAINS ON TRACK

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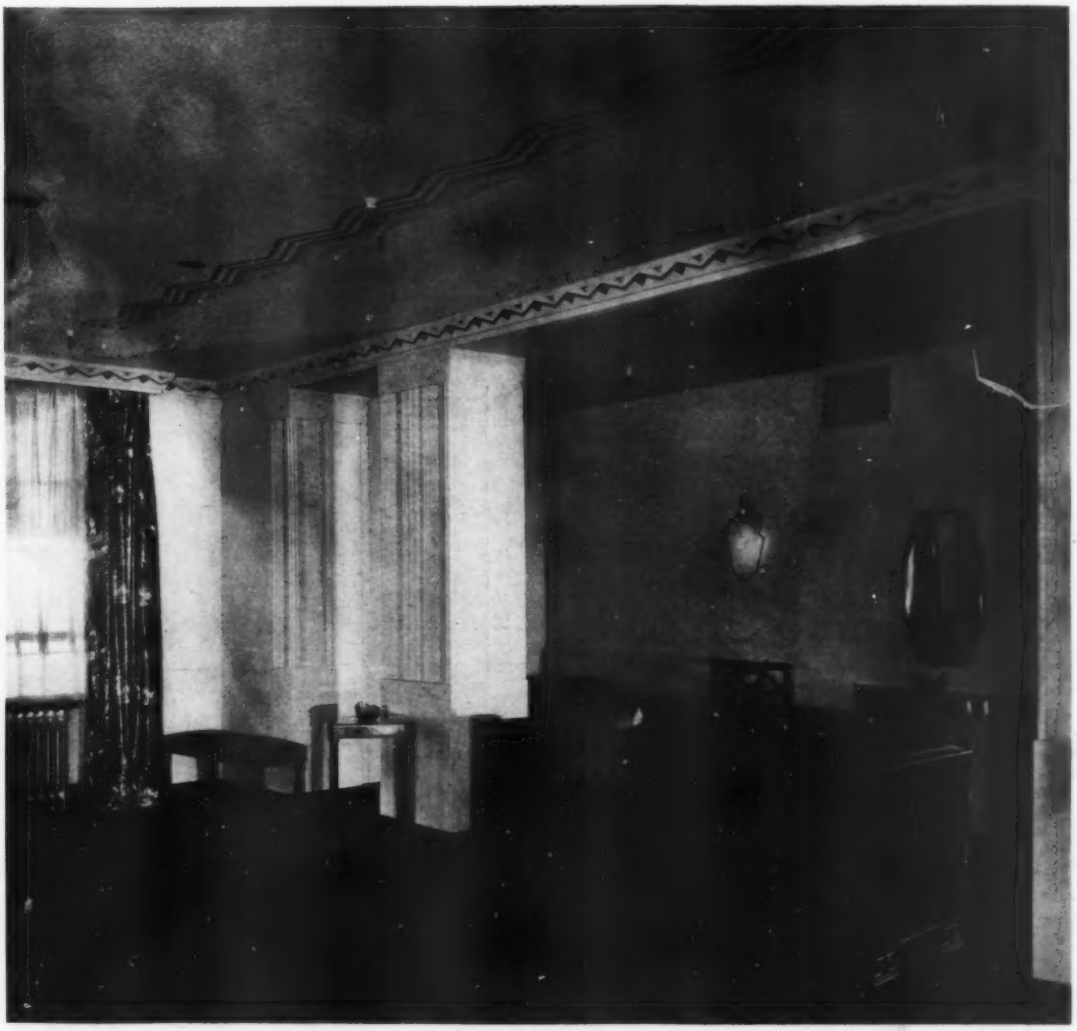
cushions. The isolators are used to support the wood floors and sleepers over the concrete slab, to separate and secure the furring, lath and plaster of the side walls inside of masonry partitions, and in conjunction with the hangers of suspended ceilings. This principle is not unlike the use of porcelain insulators in electrical work. Where windows occur in the studio they are protected against sound transmission by double glazed sash. Doorways are protected by soundproof doors of a type that completely seal the openings.

It should be noted that the soundproofing problem has, in this case, no relation to the acoustics of the room. Soundproofing presented a problem of preventing sound transmission, and acoustics became a separate consideration. In broadcasting it has been found that an absolutely "dead" room produced unnatural results in the ultimate product. It is therefore desirable to arrange for an absorption of a percentage of the sound only. A suitable sound absorbing plaster was used for the walls and ceilings. A track, supporting Monk's cloth curtains, extends around the rooms at the angle between the walls and ceiling. The curtains can be adjusted to cover such portions of the walls as acoustical conditions require, depending upon the particular use to which the room is being put. It has been found that wood sub-floors covered with cork produce the best results. Carpets are used to deaden sound reflecting areas when necessary.

The accompanying plans indicate the various departments for which space was provided. It will



RECEPTION ROOM, NATIONAL BROADCASTING COMPANY, NEW YORK

RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS

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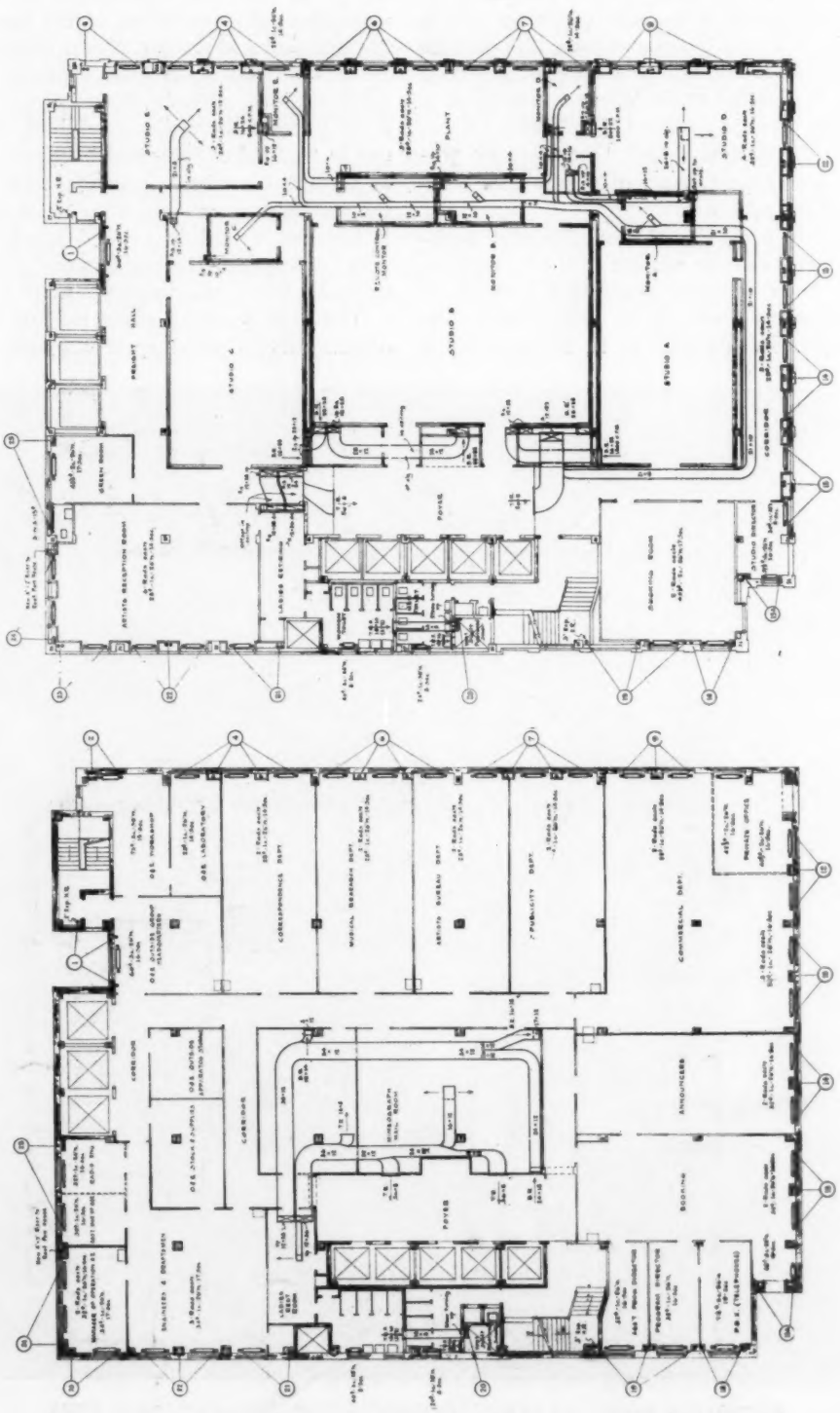
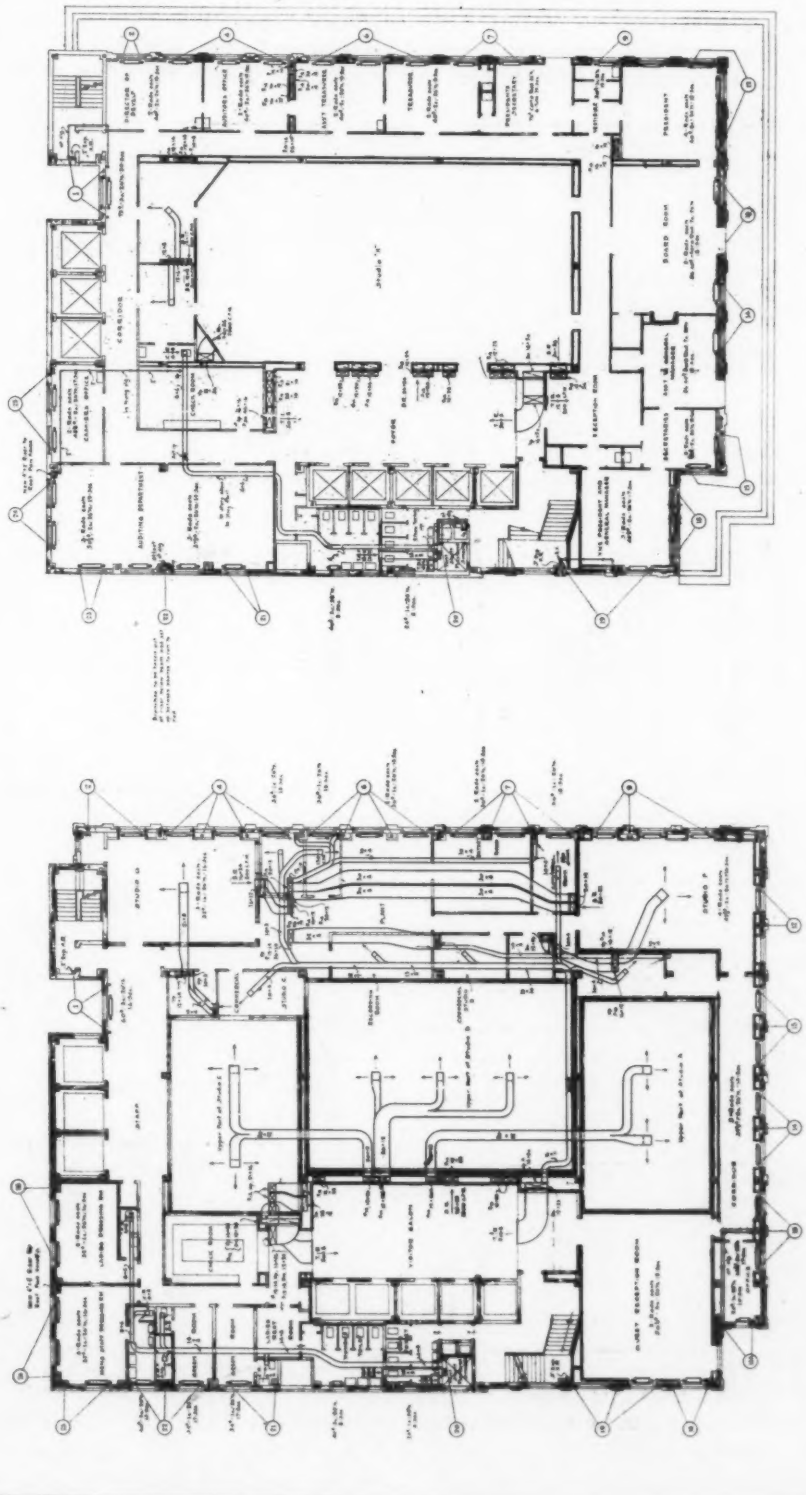


PLANS OF 12TH AND 13TH FLOORS, NATIONAL BROADCASTING COMPANY, NEW YORK

RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS; JAROS & BAUM, CONSULTING ENGINEERS



PLANS OF 14TH AND 15TH FLOORS, NATIONAL BROADCASTING COMPANY, NEW YORK
RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS; JAROS & BAUM, CONSULTING ENGINEERS

RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS; JAROS & BAUM, CONSULTING ENGINEERS

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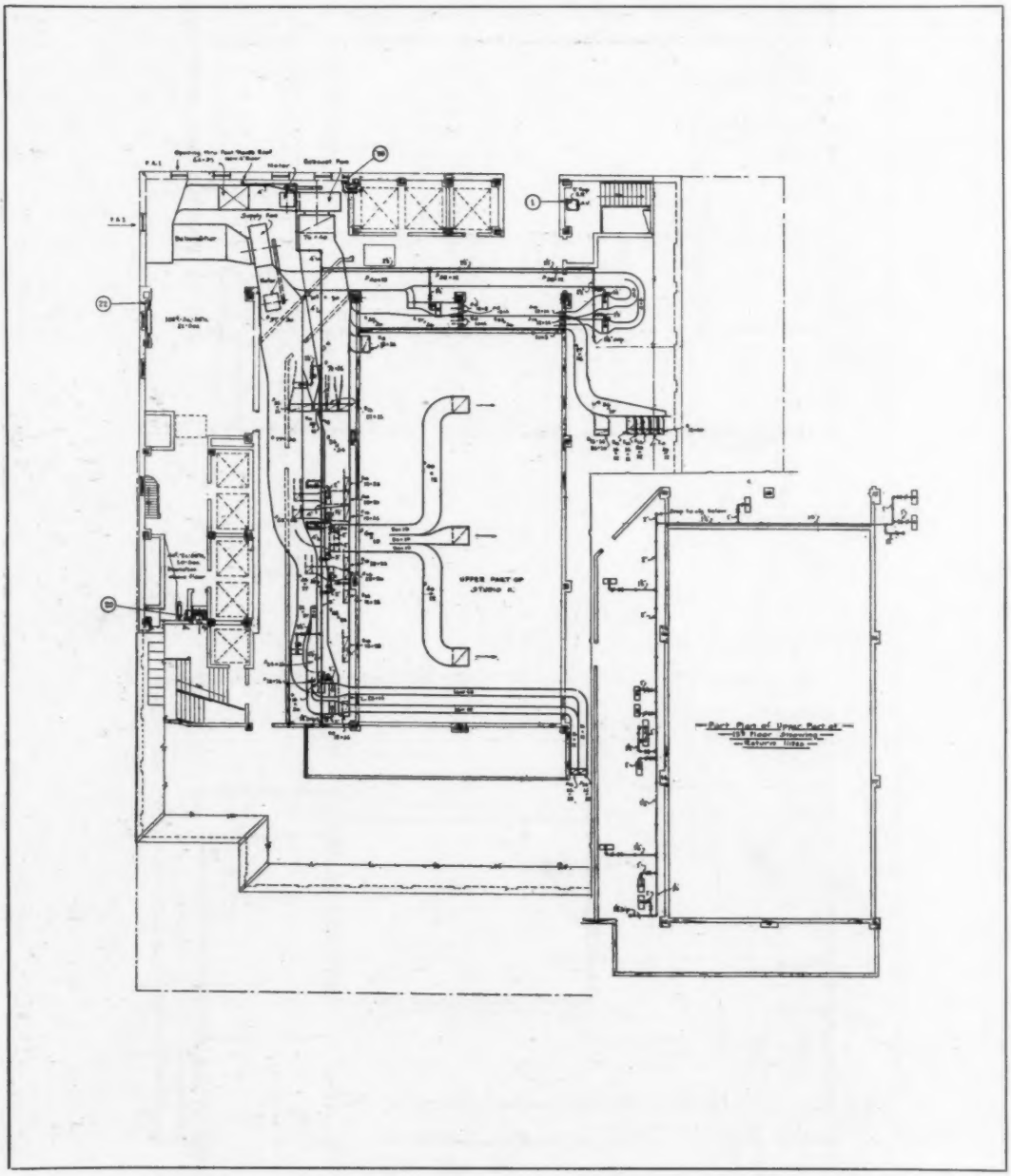
be noted that the 12th floor accommodates the engineering and executive offices. Artists' rooms, studios and radio plant are located on the 13th and 14th floors. The 15th floor is used for executive offices and Studio "H." A mezzanine floor extending around this studio is used for the mechanical equipment and a light control room.

Raymond Hood, Godley and Fouilhoux were the architects of the National Broadcasting Company's studios. The ventilating equipment was installed under the direction of Jaros and Baum, Consulting Engineers.



UPPER PART OF 15TH FLOOR, NATIONAL BROADCASTING COMPANY, NEW YORK

RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS; JAROS & BAUM, CONSULTING ENGINEERS

MAIN STUDIO "H," NATIONAL BROADCASTING COMPANY, NEW YORK

RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS

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AMERICAN BANKERS INSURANCE BUILDING, CHICAGO, ILL.

CHILDS & SMITH, ARCHITECTS

SPECIFICATIONS

Communications relative to specifications addressed to THE AMERICAN ARCHITECT *will be answered, in the pages of this department, by H. R. Dowswell, of the office of Shreve & Lamb, Architects.*

The main thought back of the New York Building Congress Specifications has been the standardization of materials and methods in accordance with accepted trade practice. Every effort has also been made to avoid repetition except where some useful purpose is served. Part B Specifications for Masonry and Concrete Materials, presented herewith, has been designed not only to standardize these materials as far as practicable, but also to permit of their use in connection with all of the trade divisions using any of these materials. The specifications are never supplemented by a Part A, but are used in connection with other specifications in the same way as the General Conditions of the Contract. Part B Specifications for Masonry, Mass and Reinforced Concrete, Concrete Arches and Concrete Fireproofing, Cement Finish, et cetera, to be published in future issues, will explain its application more fully. If possible each specification will be published complete in one issue.

A.I.A. DIVISION 3. STANDARD FORM OF THE NEW YORK BUILDING CONGRESS, EDITION OF 1929

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New York Building Congress Standard Specifications for MASONRY AND CONCRETE MATERIALS

PART B.

General Conditions.

1. GENERAL CONDITIONS OF THE CONTRACT of the American Institute of Architects, current edition, shall form a part of this Division, together with the Special Conditions to which this Contractor is referred. **General Conditions**

Arbitration Clause.

2. Any dispute or claim arising out of or relating to this Contract, or for the breach thereof, shall be settled by arbitration under the Rules of the Arbitration Court of the New York Building Congress or the American Arbitration Association and judgment upon an award may be entered in the court having jurisdiction. **Arbitration Clause**

Scope.

3. The following requirements in regard to materials shall govern in all cases where such materials are used on any part of the work unless otherwise specifically mentioned in Part A of separate Trade Divisions or where in conflict with local Building Regulations. When local Building Requirements are in excess of the requirements herein specified, they shall be followed. **Scope**
4. Before approving the use of any material or product the Architect may, at his discretion, require the Contractor to furnish conclusive evidence that the materials or products proposed for use on the work conform to the requirements herein specified.

Water.

5. Water used for concrete, mortar and grout shall be clean and free from organic materials, strong acids or alkalis, or water used by city, town or village for drinking purposes. **Water**

Sand.

6. Sand for setting Brickwork, Rough Stone Masonry, Hollow Tile work and Gypsum Block work or for Cement Finish shall be clean, coarse and sharp, free from salt, loam, clay and other foreign materials. If necessary to obtain this condition, washing will be required. **Sand**
7. Sand for setting Granite, Cut Stone, Marble or Manufactured Stone shall be sharp, clean washed sand.
8. Where so specified under Part A, samples of sand proposed for use shall be submitted to the Architect for approval. Where doubt exists as to the suitability of the sand or where so specified under Part A it shall be analysed and tested by a competent testing laboratory, at the expense of the Contractor submitting same.

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New York Building Congress Standard Specifications—

MASONRY AND CONCRETE MATERIALS—*Continued.*

Concrete Aggregates.

Fine Aggregate.

9. Fine aggregate shall consist of sand or other approved inert materials having similar characteristics, or a combination thereof, having hard, strong, durable particles. All fine aggregates shall be free from injurious amounts of organic substances and shall be well graded from coarse to fine. **Concrete Aggregates**

Coarse Aggregate.

10. Coarse aggregate shall consist of crushed stone, gravel, blast furnace slag or other approved inert materials of similar characteristics or combinations thereof, having hard, strong, durable pieces, free from adherent coatings and shall be well graded, between the limits specified under Part A of Mass and Reinforced Concrete Specifications, Part A Specifications for Concrete Arches and Concrete Fireproofing or Part A Specifications for Cement Finish.

Samples.

11. Samples of fine and coarse aggregates proposed for use shall be submitted to the Architect for approval. **Samples**

Testing.

12. Where any doubt exists as to the suitability of the fine or coarse aggregates submitted or where so specified under Part A of Specifications for Mass and Reinforced Concrete, Part A Specifications for Concrete Arches and Concrete Fireproofing, or Part A Specifications for Cement Finish, both fine and coarse aggregates shall be tested by a competent testing laboratory, approved by the Architect, at the expense of the Contractor submitting same. All such tests shall be made in accordance with the Standard Methods of tests of the American Society for Testing Materials and shall consist of tests for Deleterious Substances, Grading, Mortar Strength, Concrete Strength and Durability. **Testing**

13. Where blast furnace slag is specified or permitted to be used for coarse aggregate it shall conform to the following minimum weight requirements:

General Concrete.....65 pounds per cubic foot.
Concrete subject to abrasion.....70 pounds per cubic foot.

Cinders.

14. Cinders for reinforced concrete fireproofing or fill shall be clean, well burned anthracite cinders, free from unburned coal. **Cinders**

Storage of Aggregates.

15. Aggregates shall be stored in a manner to prevent the intrusion of foreign matter. **Storage of Aggregates**

Cements.

16. Portland Cement shall be a standard brand, approved by the Architects, conforming to the standard specifications (current edition) of the American Society for Testing Materials. **Cements**

17. Non-Staining Cement and Quick Setting Cement shall be a first grade product subject to the Architect's approval.

Cement Tests.

18. When so specified under Part A of Trade Divisions, all cement for use on the work shall be tested before being accepted for use by a competent testing laboratory approved by the Architect. The cost of such test shall be paid for out of the Cash Allowances provided in Part A of Trade Divisions. **Cement Tests**

19. When tested at the mill each car shall be sealed with the seal of the testing laboratory.

20. Cement delivered at the site in truck loads shall bear on each bag the testing laboratory's identification tag.

21. When cement is specified, under Part A, to be tested at the site a sufficient quantity shall be stored at the site to allow for test reports to be obtained on fineness, soundness and time of setting before cement is used, without delaying the progress of the work.

22. Rejected cement, whether damaged or rejected for other causes, shall be removed at once from the site and replaced with satisfactory materials, by and at the expense of the Contractor.

Packing and Storing.

23. Cement shall be delivered and packed in strong sacks. Each package shall be plainly marked with the brand, the name of the manufacturer, and the place of manufacture. Cement shall, until used, be stored in a dry place in such a manner as will insure it from all damage. **Packing and Storing**

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New York Building Congress Standard Specifications—

MASONRY AND CONCRETE MATERIALS—*Continued.*

Inert Material.

Inert Material

24. Where an inert material is specified or permitted under Part A of Trade Divisions for use in connection with Concrete, Mortar, Stucco or Plaster, the material shall be subject to the Architect's approval, shall be measured in such a manner as will insure the correct proportions by weight, and shall be added at the mixer with the other dry materials.

Integral Waterproofing.

Integral Waterproofing

25. Material for Integral Waterproofing shall consist of a compound designed to be mixed with the cement, prior to combining with the aggregates, introduced into the concrete mixture along with the cement and aggregates or mixed with water and introduced into the concrete mixture during mixing. All integral waterproofing shall be subject to the Architect's approval and shall in all cases be used strictly in accordance with the manufacturer's specifications.

Lime.

Lime

26. Lump Lime shall be first quality, freshly burned, of approved brand, and shall be carefully stored under cover.
27. Lump Lime shall be thoroughly slacked in proper boxes and allowed to stand at least two days before being used.
28. Hydrated Lime shall conform to the specifications, current edition, for Hydrated Lime, for structural purposes for masons' hydrated lime of the American Society for Testing Materials.

Mortars.

Mortars

29. Unless otherwise specified under Part A the requirements for mortars shall be as follows:

Cement Mortar.

30. Shall consist of Portland Cement and sand in the proportion of one (1) part of cement to three (3) parts of sand, tempered with not more than one (1) part of hydrated lime to ten (10) parts of cement.

Cement and Lime Mortar.

31. Shall consist of Portland Cement, hydrated lime and sand in the proportion of one (1) part of cement, one (1) part of lime and four (4) parts of sand.

Lime Mortar.

32. Shall consist of slacked lime, lime putty or dry hydrated lime and sand in the proportion of one (1) part of lime and not more than four (4) parts of sand.

Non-Staining Cement Mortar.

33. Shall consist of non-staining cement and sand in the proportion of one (1) part of cement to three (3) parts of sand-tempered with not more than 1/5 part of Mason's hydrated lime.

Mortar for Gypsum Blocks.

34. Shall consist of lime mortar gauged with gypsum or Portland Cement Mortar as approved by the Architect.

Mortar for Fire Brick.

35. Shall consist of fire clay unless otherwise specified under Part A of Masonry Specifications.

Mixing Mortar.

Mixing Mortar

36. Materials for mortar shall be accurately measured by volume, mixed dry and then wet to the proper consistency for use. Materials mixed for a period sufficient to permit the cement or gypsum to obtain its initial set may not be used on any of the work.
37. Where lump lime is used the lime shall be slaked in proper boxes and allowed to stand at least two days when used for masonry and not less than two weeks when used for plastering.

Waterproofed Mortar.

Waterproofed Mortar

38. Where waterproofed mortar is called for under Part A, the waterproofing shall be accomplished through the use of an approved waterproofing compound used strictly in accordance with the Manufacturer's Specifications.

Mortar Color.

Mortar Color

39. Where required shall consist only of mineral pigments. The coloring pigments shall be used strictly in accordance with the Manufacturer's directions to produce the results desired by the Architect.

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New York Building Congress Standard Specifications—

MASONRY AND CONCRETE MATERIALS—*Continued.*

Brick.

40. Clay and Sand Lime Brick for common brickwork shall conform to the Standard Specifications, current edition, for building brick of the American Society for Testing Materials. **Brick**

Face Brick.

41. Face brick shall be of the kinds noted under Part A of Specifications for Masonry or be selected by the Architect and purchased out of cash allowance given. Should the brick selected cost, delivered at the site, less than the stated allowance, the balance shall revert to the Owner; if in excess of the allowance, this Contractor shall receive extra compensation equal to the excess cost over the specified allowance. Samples in triplicate shall be submitted to the Architect for approval before any brick is delivered at the site.

Special Brick (Special Shapes, Glazed Brick and Paving Brick).

42. Shall be in accordance with the requirements given under Part A of Specifications for Masonry.

Fire Brick.

43. Fire brick shall conform to the requirements of the Standard Specifications, current edition, for fire brick of the American Society for Testing Materials.

Concrete Brick.

44. Twenty-eight (28) days after manufacture, or when delivered at the work, shall show an average compressive strength of not less than fifteen hundred (1500) pounds per square inch of gross-cross sectional area, tested in the position as laid in the wall. The compressive strength of any individual brick tested shall be not less than one thousand (1000) pounds. **Concrete Brick**

45. Concrete brick, subjected to a twenty-four (24) hour immersion test shall not absorb more than 12 per cent of their dry weight, except that for brick composed of concrete weighing less than one hundred and twenty-five (125) pounds per cubic foot an average absorption in per cent by weight shall not be more than twelve (12) multiplied by one hundred and twenty-five (125) and divided by unit weight in pounds per cubic foot of concrete under consideration.

Structural Terra Cotta (Hollow Tile).

46. All structural terra cotta (hollow tile) shall conform to the requirements of specifications for terra cotta, current edition, of the American Society for Testing Materials. **Structural Terra Cotta (Hollow Tile)**

47. The class to be used on various parts of the work shall be as noted under Part A Specifications for Masonry.

48. All hollow tile surfaces that are to receive plaster shall be seared to provide a key for the mortar. Badly split, cracked or warped tile will not be accepted for use on any portion of the work.

Gypsum Blocks.

49. Gypsum blocks shall consist of gypsum conforming to the Standard Specifications, current edition, of the American Society for Testing Materials. Unless otherwise specified under Part A or required by contract drawings the blocks shall be rectangular in shape, with straight square edges, true surfaces and face dimensions approximately 12″ x 30″. **Gypsum Blocks**

Concrete Blocks or Concrete Tile.

50. Used for exterior or party walls or piers shall show an average compressive strength of not less than seven hundred (700) pounds per square inch of gross sectional area tested in position as used in the wall. They shall, when composed of concrete weighing in excess of one hundred and forty (140) pounds per cubic foot, absorb not more than 10 per cent of water, by weight, under twenty-four (24) hour immersion test, except where the average compressive strength is in excess of twelve hundred (1200) pounds per square inch of gross sectional area. When this strength is shown, the absorption requirements may be waived. When composed of concrete weighing one hundred and forty (140) pounds or less the average absorption in per cent, by weight, shall not exceed ten (10) multiplied by one hundred and forty (140) divided by the unit weight in pounds per cubic foot of the concrete under consideration. **Concrete Blocks or Concrete Tile**

51. All tests on concrete blocks or tile shall be conducted in accordance with the Standard Specifications, current edition, of the American Concrete Institute.

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A. I. A. COMMITTEE RECOMMENDS CHANGES TO THE NEW YORK TENEMENT HOUSE LAW

IN the early part of 1927, the New York State Legislature created a Temporary Commission to examine and revise the Tenement House Law which has not been materially altered since its adoption in 1901. The bill as submitted to the Legislature in 1928 failed of passage, but the term of the Commission was extended for another year with instructions to draft a new bill. The Commission wisely sought the cooperation and counsel of all those interested in the subject of multiple dwellings. Among others they invited to cooperate were the New York and Brooklyn chapters of the A.I.A. and the New York Society of Architects. In the New York chapter the matter was logically referred to the Committee on Legislation, which was augmented by the special committee on design and this committee submitted their report last month. Many of its recommendations are of such interest to localities where a similar law applies, that the more important features of the report are referred to in outline herewith.

In the study of the details of the proposed legislation, the committee was guided by certain principles which are recorded in their report as follows:

1. That the value of direct sunlight, as compared with sky or reflected light, as well as the intensity of the light and the varying altitude of the sun, as influenced by seasonable changes, together with the relation of the height of structures and the effect of shadows cast on adjoining areas, should be fully considered in determining the requirements for yard and court areas and height limits.

2. That the present Tenement House Law represented minimum conditions applying in an era of buildings of very moderate height and area and to conditions which did not visualize the present conditions of intensive development involving the construction of fire-resisting structures of great height and bulk.

3. That the type of building originally constructed under the Tenement House Law provided very generally for the principal rooms on the street front with less important and service room on the rear and courts while under present conditions rear yard and court rooms are very generally of corresponding importance to those enjoying the advantageous outlook of the wider street front exposure.

4. That in determining the requirements for yards, courts and height limits it should be borne in mind the fixed direction of our streets and avenues, with relation to the direction of sun travel, provides more adequately for direct sunlight in streets, yards and courts facing in the favorable direction of such sun travel.

5. That the conditions of light and air, particularly in the lower stories of buildings, in areas intensively developed under the provisions of the present Tenement House Law are inadequate, unsatisfactory and socially undesirable as shown by the increasing percentage of vacancies in such lower stories and the difficulty of renting the portions of buildings so affected.

6. That this condition justifies the adoption of safeguards for the protection of existing conditions of light and air, with every reasonable degree of improvement in living conditions under the future development of multiple dwellings.

7. That, subject to such reasonable variations as the conditions in widely differing districts may warrant, the application of State legislation governing the conditions of the housing of its citizens should be statewide in its application.

8. That all buildings for multiple dwelling purposes, including hotels, lodging houses, etc., should be under one general law and subject to the same general provisions if difficulties similar to those arising under the distinction between buildings erected under the present Tenement House Law and the Building Code, are to be avoided.

9. That the protection of residential blocks through the restriction of any building erected within such block to the height and area applying to a residential building cannot be too highly commended.

10. That the limit of height for multiple dwellings of non-fireproof construction to be strongly recommended is not to exceed four (4) stories, but that in no event should such limit exceed five (5) stories, either with or without an elevator, which cannot be relied upon as a means of exit in emergency.

In this connection the provisions of the Building Code may be commended as representing reasonable restrictions with respect to buildings in which considerable numbers of people of all ages and conditions of health work or sleep, a condition comparable to multiple dwellings.

11. That the outside balcony fire-escape represents an obsolete, inadequate and unsafe type of emergency exit for persons of various ages, including the aged, very young, sick and infirm and, in view of the favorable exit provisions of your Tentative Draft, if it is not now found practicable to prohibit their use in new construction they should be limited for use on buildings not exceeding four (4) stories in height.

12. That, in contrast with the conditions and requirements affecting multiple dwellings at the time of the enactment of the present Tenement House Law, multiple dwellings to meet existing requirements vary from the simplest type of non-fireproof buildings to the most expensive fireproof structures of large area and bulk, arranged for apartments from one (1) to twenty (20) or more rooms and equipped throughout with every modern mechanical device contributing to convenience and comfort.

13. That we assume it to be the desire of your Commission, in any modification of the present law, to insure to all occupants of multiple dwellings conditions of light, air, health and fire safety no less favorable than similar conditions now applying under the proposed law.

There then follow certain specific recommendations and critical analyses of various articles and sections of the bill as drafted by the State Commission, in connection with which the following may be of particular interest:

"The distinctions of occupancy, originally applying between transient hotels and apartment hotels or apartment houses, are no longer so marked.

"Many tenants now reside for long periods in hotels and for short periods in apartment hotels. If a situation is to be avoided similar to that which has developed where buildings entered as apartment hotels, under the Building Code and Zoning Resolution, have become so-called 'Boot-Leg' apartments, we are of the opinion the definitions of *'Class A'* and *'Class B'* buildings must be clarified, the term 'transient' adequately defined and, to check and control unlawful conditions of occupancy, buildings under a hotel classification should be subject to special inspection and supervising authority.

"As to the height and bulk of multiple dwellings hereafter erected, we are appreciative of the economic conditions surrounding the development of property for multiple dwellings

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purposes and the necessity of permitting every degree of development consistent with the rights of the occupants of such buildings, or adjoining buildings, to reasonably adequate safeguards affecting health and safety in which the factors of air, light, sanitation and fire protection are paramount.

"We have already noted the fact that the intensive development of multiple dwelling areas has produced an increasing percentage of inadequately lighted areas particularly in the lower floors of such buildings which, under any but the most abnormal conditions of supply and demand, cannot be readily or advantageously rented, thus affecting the rentable value of the building as a whole.

"As the result of careful consideration of existing conditions we are strongly of the opinion any increase in height limits, in the absence of impracticable increases in yard and court areas, will effect no benefit as to the light conditions in the lower stories of multiple dwellings but, on the contrary, will seriously increase the present inadequate conditions.

"Your Commission is to be commended on the adoption, in your Tentative Draft, of constructive provisions which simplify the problem of planning, particularly in connection with the development of large areas which is representative of the modern tendency.

"The placing of public hallways, stairways and required bathrooms on the interior of fireproof structures preserves the perimeter of the building for living rooms which, in no small degree, provides the rentable area affected by such increases in yard and court requirements as are necessary to furnish reasonably adequate light and air conditions to all of the occupants of the building.

"As the proposed requirements represent minimum provisions for the safeguarding of the occupants of multiple dwellings no adequate conception of the requirements affecting light and air can be formed in the absence of a study of the conditions produced by the intensive development which will unquestionably continue to follow economic and housing demands. . . .

"In considering the requirements to insure reasonably adequate light and air conditions for all of the occupants of multiple dwellings we would stress the fact that under existing conditions of housing requirements a high percentage of living rooms must be placed adjoining yards and courts. This condition, in our opinion, justifies the adoption of every reasonable means of insuring adequate light conditions and the freest possible circulation of air within such areas.

"In view of the foregoing we recommend the formulation of legislation predicated upon the following:

"No multiple dwelling hereafter erected to exceed the maximum height of twelve feet plus one and one-half times the widest street upon which it faces, the height to be measured from the curb to the top of the highest roof beams.

"No such building at the building line to exceed the following height limits:

For streets 100 ft. wide or over . . . . 150 ft. from curb
For streets 80 ft. to 100 ft. wide . . . . 100 ft. from curb
For streets 75 ft. to 80 ft. wide . . . . 90 ft. from curb
For streets 60 ft. to 75 ft. wide . . . . 70 ft. from curb

"The front wall of such building, in excess of the above height limits, to be set back from the building line one foot for each three feet in height, or fraction thereof, to the maximum height limit, as mentioned. The set-backs for yard walls to start at a point twenty feet lower than provided in your Tentative Draft.

"To insure a reasonably adequate circulation of air within yard, court and block areas we recommend:

"1. That, in the interests of block ventilation, no building on an interior lot running through from one street to another street and exceeding one hundred and ten feet from building line to building line be permitted without rear yards, as provided in your Tentative Draft, except under the following conditions:

"When all of the interior lots in a block are developed under one ownership and where all buildings on such interior lots are extended through from one street to another street and where on each side of each of such buildings there shall be a side court extending through from building line to building line and equal in width from each side lot line to the side walls of the building on such lot the requirements for the depth of a rear yard.

"2. That no inner or box courts be permitted as required court areas.

"3. That for buildings over four stories in height side lot line courts be required to be arranged as outer courts to prevent the possibility of creating an inner court condition in conjunction with the building on the adjoining property.

"Permission to erect towers, regardless of their relative area to plot sizes, is in direct opposition to the principle of conserving direct sunlight as contrasted with sky or reflected light.

"While favorable light and air conditions may result, so far as the occupants of individual towers are concerned, the continued erection of such towers, even if separated by considerable areas, tends to form an overlapping screen which effectively cuts off direct sunlight within the range of the shadow cast by such towers.

"Existing towers now cast shadows over areas several blocks from such towers and the multiplication of towers cannot fail to seriously affect the direct sunlight available not only in the lower stories of adjoining buildings but the highest stories as well. We recommend, therefore, towers be prohibited as a part of multiple dwelling structures."

Further recommendations have to do with cooking spaces in small apartments, a subject which has aroused considerable discussion but which is of minor importance, the commission contends, for a building which is constructed of fire resisting materials.

There are certain changes which are suggested as to overcrowding, artificial hall lighting and sanitation. While the report states that the provisions for stair and exit requirements represent a distinct improvement over existing regulations, certain recommendations are suggested.

"We believe the requirements for stairs, in excess of two within 75 feet of each apartment entrance, may safely be determined by this rule rather than the number of rooms in view of the fact that the inclusion of living rooms and kitchens, while adding to the number of rooms, does not tend to increase population and, in our opinion, the requirement for two stairways within 75 feet of each apartment entrance will preclude, in this type of building, overcrowding of exit facilities.

"Increasing the width of one stairway, in lieu of adding an additional independent stairway, does not insure equivalent exit facilities.

"In a building requiring three stairways, where one normal and one widened stairway are provided, the exit facilities would be reduced to one normal stairway, in place of three, if, for any reason, the widened stairway was not available for use in the emergency.

"In our opinion if any concession is to be made two stairways should be widened for each stairway omitted."

The Committee on Legislation of New York Chapter, American Institute of Architects, consisted of: Samuel R. Bishop, Frank Goodwillie, Arthur Loomis Harmon, Arthur C. Holden, Lansing C. Holden, F. Mathesias, Jr., and Charles B. Meyers. Special Sub-Committee on Design: Harvey Wiley Corbett, Electus D. Litchfield, Yasno Matsui, William L. Rouse, Cyrus W. Thomas, George A. Boehm, and McKim, Mead and White. Theodore I. Coe acted as Chairman.

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Brick By LANCASTER

High School
Leola, Pa.
Henry Y. Schaub
Architect

Lofty Simplicity—Subtle Elegance

Won for this school the two highest awards

In the recent School Building Architectural Competition conducted by The Common Brick Manufacturers Association, The Leola School by Architect Henry Y. Schaub took both the first and grand prizes. These awards are particularly significant in view of the wide variety of designs submitted from all parts of the country, some representing outlays of as high as half a million dollars.

The judges, all outstanding school architects, said of the Leola School, "This entry possesses a charm which is rarely accomplished in buildings of this kind." As the most prominent part of any building is the wall, this statement of the judges manifestly was influenced by the brickwork.

We therefore feel pardonably proud that the building is faced with Quaker Colonial Brick. The beauty of this brick by Lancaster is difficult to appreciate from photographic reproductions; we should therefore be glad to send you samples for your study. Write us about this or any of our other products, there is no obligation.

Lancaster "QUAKER Colonial BRICK"

is a sand moulded brick of natural beauty. Their color is neither stepped up nor toned down; they are neither too bright nor too sombre. When laid in the wall they present a harmony of color, made doubly interesting by their horizontal and vertical fire markings produced in the kiln.

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We feel confident you will find Quaker Colonial Brick a distinct departure from the ordinary—refreshingly different in both color and texture. For Colonial and old English types of architecture—for religious structures, schools and residences where an appearance of graceful age is desired, Quaker Colonial Brick is without a peer.

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BOOK NOTES

OF INTEREST TO GLASS PAINTERS

BY MAURICE HEATON

THE intimate and scholarly work of John A. Knowles, Honorary Editor of the Journal of the British Society of Master Glass-Painters, about the History of the York school of glass painting, is of immense interest to both students and laymen. For, as a glass painter who has lived most of his life within a stone's throw of York Minster, he is bound to tell the secrets of the jewelled glass windows in a far more concrete and fact finding fashion than any antiquarian. Indeed, as each instalment comes into print, there are always observations, or anecdotes that bring the past to the present. When Mr. Knowles gives a sketch of part of a canopy in which 14th century pinnacles are propped on 15th century shafting, he does not only make clear the difference between the two types but gives at the same time an inkling of how mediaeval tradition weighed heavily in the hand of the glass painters. And when the mouldings of a column are painted as in an architect's section, instead of showing the perspective, another sketch follows to show what the glass painter meant to draw and did not succeed in doing through lack of knowledge of perspective.

Variation and unity of color in old glass is described in a few words: "York painters had a passion for counter-change in the colour; thus a red Bishop stood upon a blue background with a red background to his canopy" . . . and "in the next light this was merely turned around, whilst the whole of one window would again be counterchanged in the one next to it." Indeed the truth of this observation can hardly be overestimated and is the keynote of the massing of color decoration in the middle ages. And when Mr. Knowles adds: "Colouring, therefore, was not a question of artistic feeling, but of mechanical procedure," he merely means that tradition was taken as a matter of fact in the middle ages, just as it was by the Italian tilè setter who told me last year that tiles should not be set in solid cement, although he did not know why. The difference being, judged by the result, that the old craftsman very well knew why.

The other articles in the Journal all deal with ancient glass, or sale of ancient glass, and if it were not for an electric kiln described in the technical page and reproduction of modern work from the review of a German book, one would ask, Are these English master glass painters gentlemen of leisure whose only interest is apparently old glass? I can understand the space devoted to printing of ancient records of mediaeval glazing by L. F. Salzman, never published before, but to use space devoted to the description of more ancient glass, however important, to the exclusion of contemporary work, seems a positive mistake. How long would THE AMERICAN ARCHITECT be subscribed to if it published records of Gothic and ancient monuments and reproduced the photo of a recent skyscraper as a mere illustration following a book review?

Although stained glass may be restricted by the style of the churches it decorates and, in England, cannot boast perhaps of radical experiments, the very study of mediaeval glass ought to show that the old masters were far more modernistic and truly decorative than most contemporary stained glass window designers today.

Journal of the British Society of Master Glass-Painters, Vol. II, No. 4, October, 1928, London.

HANDBOOK OF REINFORCED CONCRETE BUILDING DESIGN

A HANDBOOK, by Arthur S. Lord, based upon the recommendations of the Committee on Reinforced Concrete Building Design and specifications of the American Concrete Institute, has been issued by the Portland Cement Association. It is stated that the purpose of the book is to establish a safe and economical standard for reinforced concrete construction and to provide designers with necessary tables and diagrams that assist in designing quickly and economically. The make-up of this volume presupposes an understanding of the fundamentals of the design of reinforced concrete; it is intended to be a handbook for engineers. It covers all phases of reinforced concrete design with a directness that greatly simplifies the subject. Cost data are included that should be found invaluable. Altogether this volume should prove of inestimable value to structural designers. An interesting, unusual and exceedingly practical feature of this handbook is the method of marginal indexing. The first page in the book contains the marginal headings. By bending the book backward, black lines appear on the edge of the pages opposite the marginal headings. This greatly facilitates the location of data.

Handbook of Reinforced Concrete Building Design, by Arthur S. Lord. Chicago: Portland Cement Association, 33 West Grand Avenue. 262 pages, illustrated, size 5¼ x 7½ inches. $1.00 (50 cents each in quantities of six or more to one address).

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Smoking Room in Avalon Theatre, Chicago, John Eberson, Architect. Interior Tiling Co., Tiling Contractor.

KERAMIC TILES—real tiles—offer an ideal medium for artistically finishing the public smoking room or lounge. In the room shown above where smokers gather nightly, carelessly dropped cigarette stubs never mar the original beauty of this floor material.

There are many similar examples where Keramic Tiles have been wisely used to obtain interiors of true distinction as well as to meet definite requirements for a room that is easily, quickly cleaned and perfectly protected.

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CONCRETE ORNAMENT IN THE SHRINE OF THE SACRED HEART, WASHINGTON, D. C.
MURPHY & OLMSTED, ARCHITECTS; JOHN J. EARLEY, ARCHITECTURAL SCULPTOR

THE FERRO-CONCRETE STYLE

DURING the past five years increased interest has been evidenced in the design of structural elements as decorative members. This has been particularly apparent in recent European architecture and more or less true of much work done in America. While the idea is not limited to any one material, nor is it a new one, reinforced concrete has given evidence of being well adapted to such design. It is interesting and timely to review a book devoted to "The Ferro-Concrete Style."

The author, Dr. F. S. Onderdonk, we understand, was born in New York. He spent twenty years in Europe, where he studied architecture. In 1928 he received the degree of Doctor of Technical Sciences from the Vienna Imperial and Royal Technical University, as the result of a thesis on Reinforced Concrete Architecture. Upon returning to the United States he became a member of the faculty of the College of Architecture of the University of Michigan. In this capacity he has had an opportunity to continue his research by surveying concrete architecture in the United States.

Dr. Onderdonk by experience and research study is well qualified to write on the development of reinforced concrete in architecture. In fact, the present volume leaves one with a feeling that there is little more to be said on the subject until such time as future developments provide new material.

Anyone not thoroughly acquainted with the uses to which reinforced concrete has been put and the many ways in which it has been handled may well be amazed upon viewing the illustrations contained in this volume. In referring to the architectural uses of concrete, Irving K. Pond, F.A.I.A., has said. "The possibilities of texture, the possibilities of color inhering in the product, make it a thing through which the sensitive designer can make his feelings flow. So that to have this product made the medium of a wonderful expressive art, all we would seem to need is a wonderfully sensitive designer!" The text and illustrations contained in "The Ferro-Concrete Style" give the impression that the surface of possibilities of this material has hardly been scratched.

RESURRECTION CHAPEL, KRIEGERGEDACHTNIS CHURCH, NEU-ULM, GERMANY

PROF. DOMINIKUS BOHM, ARCHITECT

(From "The Ferro-Concrete Style" by Francis S. Onderdonk)

This volume is divided into five chapters dealing with the possibilities of Reinforced Concrete; Surface Treatment and Sculpture; Concrete Tracery; The Parabolic Arch and The Ferro-Concrete Style. A very complete index to illustrations, subjects, architects, engineers, painters, sculptors and authors; and bibliography are included. Anyone interested in the design of buildings in reinforced concrete will find this volume instructive.

The Ferro-Concrete Style, by Dr. Francis S. Onderdonk, Jr. 265 pages, illustrated. Size 8 x 11 inches. The Architectural Book Publishing Company, New York, price $12.50.

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MODERN ARCHITECTURE

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CONCESSION MADE IN PROGRAM OF THE COLUMBUS MEMORIAL LIGHTHOUSE COMPETITION

THE third and last bulletin to be issued by Albert Kelsey, Technical Advisor of the Pan American Union, Columbus Memorial Lighthouse Competition, announces a further concession in the drawings required to be submitted by competitors. A final revision of the program is made with respect to "The Detail Sheet." The bulletin reads, in part, as follows:

" 'With the retention of the detail drawing and the elevation at the original scale,' a talented and accomplished architect writes, 'I do not feel that I can afford to spend the money necessary to do the competition.' As some others may feel the same way, and since the purpose of the competition is to secure the cooperation of just such minds, a further concession is now made.

"Both the perspective and the detail sheet may be omitted, but all competitors are hereby notified that those who omit them will, without doubt, find themselves in competition with some who will submit one or both of these drawings, and that of the two the International Jury will consider the detail drawing of the greater importance. It may, of course, be possible to set forth everything convincingly on the remaining four sheets, and even without a single detail, but if the design is to be "precioso," as a Spanish architect aptly said the winning design must be, it is then for the competitor to decide whether he can suggest true preciosity without drawing at least one detail, either on a separate sheet or on any of the other sheets where space can be found for it. In short, he who is consecrating himself to the designing of something more than a fine partie; he who is capable of expressing himself with true emotion; he who, with deep sincerity, intends to set forth the wonder of Western civilization, or the material interests that unite men, or perhaps the best impulses that lie beneath the political efforts of twenty-one nations, or perhaps again the common religion of all the Americas, or any theme at all worthy of the opportunity, will have to be a good draftsman indeed to indicate at the small scale of the other drawings whatever he may have in mind. Furthermore, it is not enough to have a good idea. It is equally important to convince the International Jury that the competitor is able and anxious to develop that idea with finesse and sustained enthusiasm."

The bulletin also calls attention to the fact that correspondence reaching Washington after February 25th will receive no consideration, but, should it be necessary to communicate with the Technical Adviser, after that date, letters should be addressed to him care of Vda. de Angel Macarron, Jovellanos 2, Madrid, Spain. All drawings are to be mailed to the same address in ample time to reach Madrid before April 1st, 1929. The card recently sent to all competitors should be returned immediately properly filled out so that the Spanish government may provide sufficient wall space for the hanging of all drawings submitted. The bulletin also reminds competitors that a gummed label sent them must be attached to the outer wrapper of the package to serve as a mark of identification to the Custom House officials at the Spanish frontier.

SECOND ANNUAL A. W. BROWN TRAVELLING SCHOLARSHIP COMPETITION

THE second annual competition for the A. W. Brown Travelling Scholarship has been announced. It will be held under the direction of a committee of the American Institute of Architects, including J. Monroe Hewlett, Charles Butler and Wm. Dewey Foster.

The scholarship is the gift of the Ludowici-Celadon Co. and is a memorial to the late A. W. Brown. The value of the scholarship is two thousand dollars, to be used towards defraying the expenses of a year of travel and study in Europe. Travelling expenses between the winner's place of residence and the port of New York will be paid in addition to this amount. An award of two hundred and fifty dollars will be made to the person whose design is placed second in the competition; one hundred and fifty dollars to the person whose design is placed third; and one hundred dollars to the person whose design is placed fourth.

It is stipulated by the donors that the competition shall be open to any architect or architectural draftsman who is a citizen and resident of the United States; who has never been the beneficiary of any other European scholarship; who has passed his twenty-second but has not passed his thirty-second birthday on May 1st, 1929; and who has been in active practice or employed in the offices of practicing architects for at least six years, or, if a graduate of an architectural school, at least two years since graduation.

Those wishing to take part in the competition are advised to apply in writing for information and application blanks to the secretary of the committee, Wm. Dewey Foster, 25 West 45th Street, New York City.

Programmes will be mailed to approved applicants March 1st, 1929, approximately, and it will be required that drawings are delivered on April 1st, 1929.

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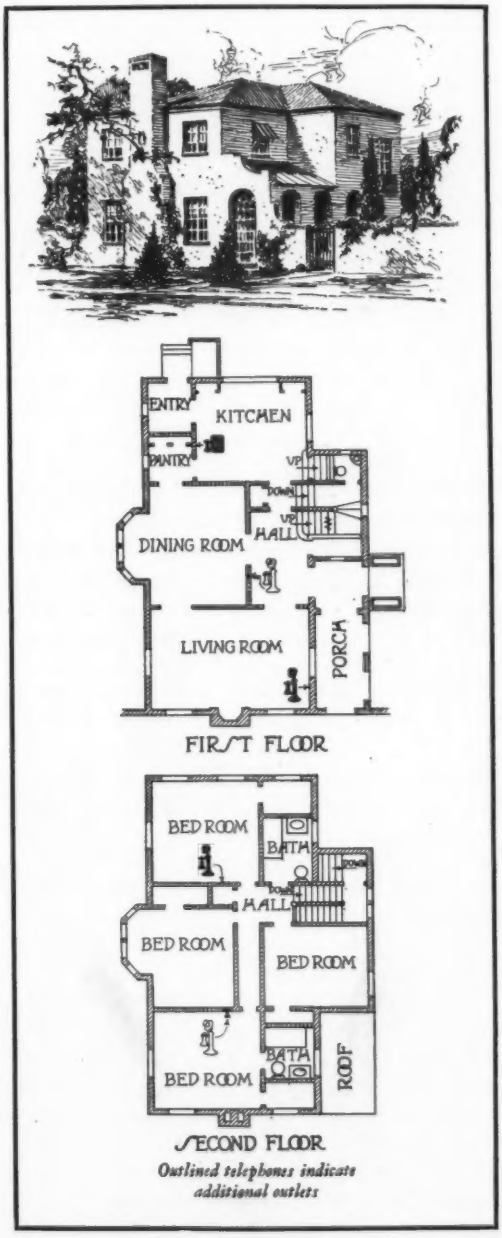
★ ★

Telephone Arrangements are now Planned in Advance . . . and *Built into* the House



People everywhere are welcoming the new idea . . . telephone service available throughout the house . . . wherever it is needed

TELEPHONE service *throughout the house.*

This is part of the new idea of telephone convenience and comfort which is meeting instant favor among home-owners everywhere.

Telephones permanently installed in those rooms frequently used . . . living-rooms, kitchen, bedchambers, hallways, etc.

Telephone service *available* in other parts of the house—when needed!

And it can be accomplished so easily. Especially in new or remodeled homes facilities for wires and other apparatus can be ***built in***, adding appreciably to appearance and permanence.

Architects are finding it desirable, in designing residences and buildings, to plan in advance for telephone convenience. They arrange for telephone outlets during construction, providing not only for immediate service requirements, but for future expansion and rearrangements as well.

Conduits are run, within the walls, to all points where present or ultimate service may be desired. Thus, rearrangement of the service, or additions to it, may be made without the necessity of exposed wiring.

Many people nowadays want two or more telephone lines—one, or perhaps two, for the family and another for the servants. Household business can then be conducted without interfering with incoming and outgoing calls. Additional equipment is available for all sorts of requirements.

To help architects and others in preparing for proper telephone facilities, the Bell System has issued two booklets on planning for telephones in residences and buildings. If you have not yet received your copies, the Business Office of the local Bell company will be glad to see that you are supplied at once.

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

A LETTER

The Editors:—

"The Opportunity of the Architectural Profession," in your issue of December 20th, 1928, deserves the thoughtful reading of every member of the profession.

It points the way to a distinct public service for which the architect is peculiarly well fitted.

The rapid growth and development of our country with the concentration and congestion in urban sections present problems of ever increasing complexity.

This has encouraged the resort to legislation as a hoped for panacea for every sort and degree of ailment to which the body politic is susceptible.

Our legislative bodies, large and small, are reservoirs from which flow a never ending flood of regulatory rules, regulations, ordinances and laws intended to regulate, direct and control our actions, habits and surroundings.

In large measure these provisions are sponsored and enacted as separate and distinct measures with too little regard to a broad and well-studied co-ordination with existing requirements and conditions or the possible results which may follow the application of such requirements to conditions not in contemplation when the law was adopted.

In an age of increasing specialization there are many phases of legislation which call for the most expert and co-ordinated study and analysis if the pitfalls of illogical or inadequate legislation are to be avoided.

We have been, and are, too prone to consider the formulation of all legislation as the province of the lawyer. Much of it is, and should be, but who is better qualified than the architect to speak with authority as to the requirements to govern so much of the legislation pertaining to the increasingly important and vital problems of providing economically sound and healthful habitat conditions for the many uses for which buildings are required, together with the beneficial grouping of such buildings as comprehended in wise zoning arrangements and forward looking community and city planning?

The study and solution of these problems demands and should have the full benefit of the practical and artistic training and experience of the architect as expressed from the broad professional viewpoint which, to the same extent as the public recognizes and applies to the profession of medicine, should stand for public benefit and welfare, as against self-interest or purely material conditions.

When architects fully accept their professional responsiblity for such worthwhile public service they will bring nearer the time when the public will recognize the need for and support, through legislative enactment, the establishment of standards which will place the practice of architecture on a truly professional basis surrounded and protected by safeguards in character with those now applying to other professional groups.

Yours very sincerely,
THEODORE I. COE, A.I.A.

SIMPLIFIED PRACTICE RECOMMENDATION

THE Bureau of Standards of the Department of Commerce has recently issued Simplified Practice Recommendation R13-28, superseding R13, on "Structural Slate (for Plumbing and Sanitary Purposes)." It standardizes various types of laundry tubs, sinks, shower stalls, etc. This recommendation may be obtained for ten cents from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.

CARNEGIE CORPORATION OF NEW YORK SCHOLARSHIP GRANTS FOR 1929-1930

THE Carnegie Corporation of New York has set aside a fund for the continuation during 1929-30 of scholarship grants in behalf of prospective college teachers in the fine arts. The sum available will provide for a limited number of re-appointments and new appointments, the stipends to range from $1,200 for first year graduate students to $2,000 in certain cases for advanced work abroad. The purpose of the grants is to enable students in the fine arts to pursue graduate study under the direction of American universities either in residence in them or abroad, in preparation for the teaching of graphic and plastic arts in colleges and universities.

Applications for scholarship grants for 1929-30 should be filed before February 11th, 1929. Inquiries for information are to be addressed to the Carnegie Corporation Advisory Group Scholarship Grants, 522 Fifth Avenue, New York, N. Y.

The Advisory Group on Scholarship Grants will make selection on or before March 15th, 1929, and applicants will be notified as soon as possible thereafter.

EXPERIMENTS CONFIRM SUBFLOOR ADVANTAGES

THAT the addition of a subfloor has a valuable stiffening effect in wooden floor construction is confirmed by recent tests at the Forest Products Laboratory, U. S. Forest Service, on 30 different constructions conforming to floor designs and conditions met with in common practice. These tests indicate that a subfloor, by distributing the loads placed upon the floor, adds appreciably to the strength of a floor system, reduces distortion and vibration, diminishes the cracking of plaster, and probably decreases floor squeaking. Under the load of a piano or other heavy piece of furniture, the joists supporting a floor are deflected or bent. One effect of this bending of the joists is a bending of the lath and plaster on the ceiling below, which may cause the plaster to crack. It was found that a subfloor of ordinary thickness added to a floor system consisting of a 1-inch hardwood floor on 2 by 10-inch joists, 12 feet long and 16 inches apart, reduced the total deflection or bending of an individual joist approximately 30 per cent and its deflection with respect to adjacent joists approximately 40 per cent. Less bending of the individual joists means less tendency for the plaster on the ceiling beneath to crack.

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IN discussing the Fisher Building with Albert Kahn, he remarked that an unusual opportunity had been afforded him to design an unusual building, through the encouragement offered by the owners to use any materials he desired. Mr. Kahn further stated that he had been permitted to design a building unhampered by cost. By the same token, if the current issue of THE AMERICAN ARCHITECT has in it an element of the unusual, we must say that it is due not only to the numerous, out of the ordinary illustrative possibilities offered by the Fisher Building, but also to the ready cooperation given to the editorial department by Mr. Kahn and his organization. Much thought and effort were used to collect data and scattered notes relating to the building and its design. Access was given to the original working drawings and sketches from which the plates in this issue were made. Every facility was thus afforded us to make this issue a comprehensive description of the Fisher Building, and in so doing to make this issue of greater value to our readers. We take this opportunity of publicly thanking Albert Kahn, Inc., for the interest, enthusiasm and whole-hearted cooperation that made this issue possible.

Some of the more important buildings and subjects which we are planning to illustrate in coming issues of THE AMERICAN ARCHITECT are The Film Center, New York, a commercial building designed by Buchman & Kahn; the New York Life Insurance Company Building, New York, Cass Gilbert, Architect; the new City Hall at St. Joseph, Mo., designed by Eckel and Aldrich; the New York Dock Trade Facilities Building, Brooklyn, of which Russell G. Cory was the Architect; and a group of photographs of landscape architecture to be shown in conjunction with a review of the forthcoming exhibition of the New York Society of Landscape Architects.

February 20, 1929 *The Publishers*

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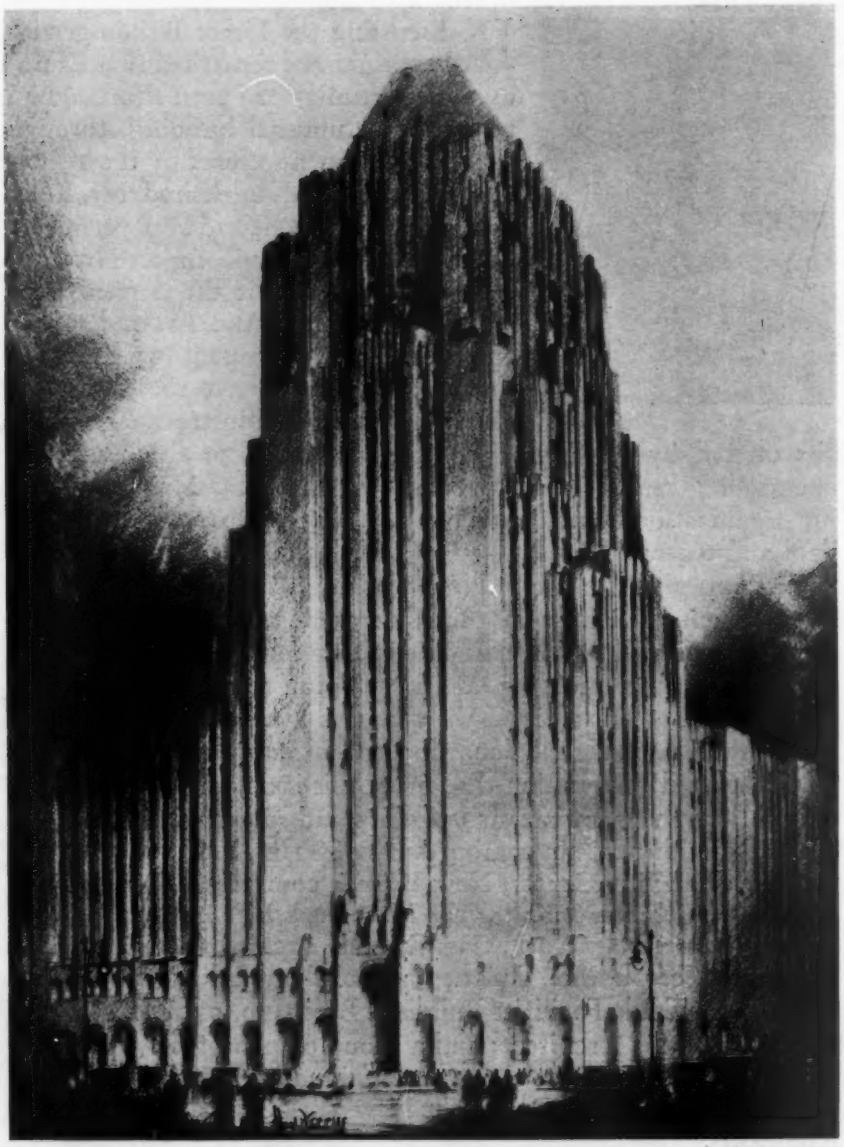

FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

From a drawing by Hugh Ferriss

THE AMERICAN ARCHITECT

February 20, 1929

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